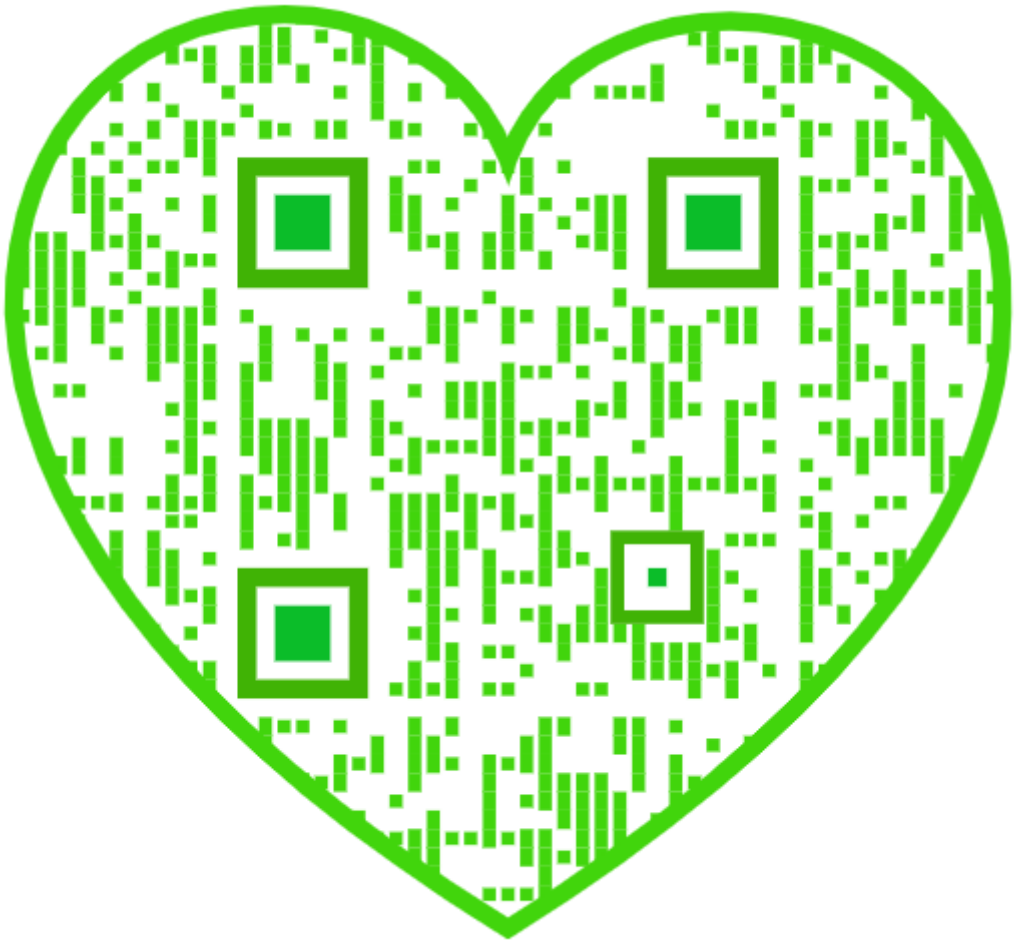

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THE ARCHITECT AND ENGINEER

OCTOBER 1932

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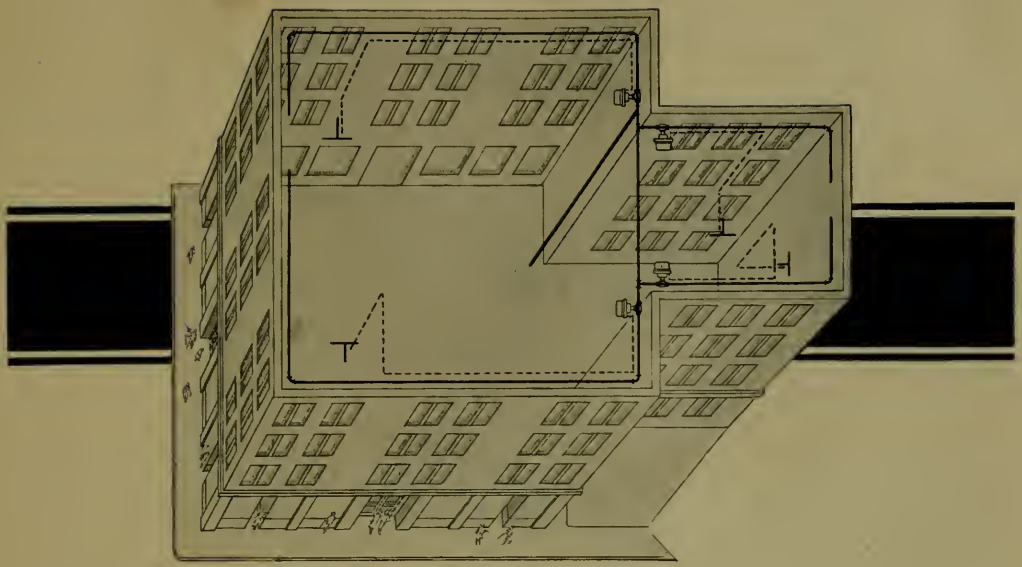

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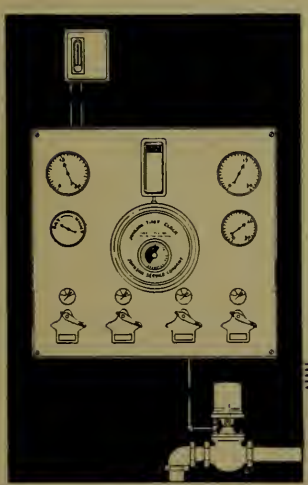

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The illustrotion suggests Johnson apparatus for a typical Zone Control System. Control panel applies to a building having four zones. Zone control valve and dual type thermostat for day and night operation are indicated for one of the zones.

Thumb Tacks and T-Square

THE first of a series of etchings of Hoover Dam by Wm. Woollett of Los Angeles, appears as the Frontispiece this month. Its execution possesses that something so characteristic of this young man's work. The title of the drawing is "Suspension Bridge", as seen looking toward the Arizona side. It is one of a dozen interesting views around the Hoover Dam project which Mr. Woollett has cleverly reproduced in this medium. The series will be shown one or two at a time in successive issues of THE ARCHITECT AND ENGINEER.

Born in Albany, New York, thirty-one years ago, young Woollett received his early training in Berkeley, later graduating in the School of Architecture at the University of Minnesota. Office training under Ludlow & Peabody, Alexander Trowbridge and James Gamble Rogers, all architects of renown, gave him a fine slant on his chosen profession. This training, with the last seven years of practical work in the office of his father, Wm. Lee Woollett, has rounded out a splendid preparatory career for him.

Woollett has exhibited his lithographs, etchings and sketches at the Los Angeles County Fair, Ebell Club, Friday Morning Club, Assistance League, Plaza Art Centre, and Olympic Art Exhibit. An exhibition of his work will be held under the auspices of the California Society of Etchers, of which Mr. Woollett is a member, in San Francisco next month.

⁂ ⁂ ⁂

MOST business men believe cleanliness and orderliness are primary laws of efficient business operations. But how many put that belief into practice and make it pay dividends? Sometimes cleanliness is considered only in terms of floors, or desk tops, or flies, or personnel. And sometimes it surrounds and permeates a business institution and becomes one of its big assets.

The business world, as well as the buying public, assumes a high standard of cleanliness for all food industries, but is frequently indifferent to the standards applied in other industries. The public disregard of this situation is comprehensible; people rarely are interested where they are not directly affected. But the industrialist, regardless of the nature of his product, has so much to gain from a thorough-going cleanliness program that neglect from him is hard to understand.

Personal and environmental cleanliness is tied up with employee health, morale and efficiency, and these reflect themselves in labor turnover, absenteeism, production, costs and accidents. It is not to be expected that a machinist, during his working hours, should be in the lily-white condition required of the department store salesman. The nature of his work makes this impossible; but his health protection demands plenty of facilities for washing up before lunch and before he goes home at night.

Plant managers, personnel directors, employee welfare workers and others who have formed effective ways to apply these privileges are, as a rule, quite willing to share their experiences. With a view to making some of this valuable information more widely available, Cleanliness Institute recently offered to pay Twenty-five Dollars for first-hand descriptions of the best cleanliness plans in actual and successful operation.

One of these descriptive letters offers a graphic illustration of what a cleanliness campaign did for the American Rolling Mill Company, of Middletown, Ohio. "Accidents had been occurring with startling regularity. Safety talks, inspections, and all known methods of prevention had been employed, but still accidents persisted," says Hugh Wright, supervisor of Personnel Publications for the company. "One day one of the foremen had an inspiration. He decided to have the cold roll men wear white pants instead of greasy overalls, the conventional uniform of the steel plant worker. Everybody laughed and joked about those cold roll dudes, that first morning the white-clad crew worked in their new uniforms, but somehow the idea infected everyone in the big finishing department. The next morning other white garbed workers punched the time clock, and by the third day every man in the department was clad in spick and span white duck pants and white shirts. There were no more accidents in that department. Not that the white pants themselves prevented accidents, but rather the worker garbed in white took every means to clean up his working place and exercised greater precautions in keeping it clean.

"Cleanliness and orderliness not only affect accidents, but they also exercise a powerful influence on the quality of product manufactured in the department or plant. It has been our experience that the departments which secure the high yields and have the best accident records are the cleanest departments."

⁂ ⁂ ⁂

LAST month we reprinted part of Ellis Lawrence's tribute to a rising young California delineator—Carl W. Heilborn. An appreciative letter to the Editor from Mr. Heilborn bears the good news that ARCHITECT AND ENGINEER readers will soon be favored with a portfolio of some of the delineator's recent work. Here is what he says:

"Mr. Lawrence writes that he is arranging for an exhibition of my work in Portland. The *Pencil Points'* illustrations were chosen from this group of some fifty drawings: so there are many more of equal merit to those appearing in *Pencil Points* and you may be interested in reproducing a few of these along with some of my newer things.

"For quite some time I have had the desire, because of my appreciation of Mr. Lawrence's help and guidance, of doing a group of lithographs and etchings of the most outstanding buildings designed by his firm; these, perhaps to appear as a portfolio. I have written, recently, for Mr. Lawrence's approval of the plan.

"I am thinking seriously of locating in San Francisco as I am not quite satisfied with Los Angeles as a suitable sketching field for my particular architectural tastes. The hilly nature; the rising skyline and the busy waterfront in San Francisco seems more inspiring to me than anything here."

Very truly yours,
"CARL W. HEILBORN."

⁂ ⁂ ⁂

NORTHERN California Chapter, the American Institute of Architects, is to be congratulated in its selection of John J. Donovan as its president for the ensuing year. Mr. Donovan succeeds Henry H. Gutterson who filled the office ably the past year. Mr. Donovan has the reputation of doing things and he will undoubtedly be a big help to the Chapter in these trying times when every person and every organization needs a full measure of enthusiasm and encouragement. Besides being an architect of renown, Mr. Donovan is a writer of no mean ability. A review of his latest contribution to the profession on "School Buildings and Their Equipment", is published elsewhere in this issue.

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Photo by Gabriel Moulin

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Next Month

H. A. MINTON, formerly architect for the Bank of America, contributes photographs, sketches and plans of some of his recent work, including bank buildings, schools and churches.

The first of four interesting chapters of the early architectural practice of Elmer Grey of Los Angeles. The young practitioner will find an intimate appeal in Mr. Grey's articles.

Another of Wm. Woollett's graphic etchings of HOOVER DAM and the final chapter of Wm. L. Woollett's scholarly essay on "Architecture and Finance" will constitute other features of the November number.

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SUSPENSION BRIDGE, HOOVER DAM PROJECT

ETCHING BY WM. WOOLLETT

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THE ARCHITECT AND ENGINEER

OCTOBER 1932
VOLUME 111
NUMBER ONE

THE LINCOLN SHRINE AND TWO OTHER BUILDINGS

by
ELMER GREY, A. I. A.

THE Lincoln Shrine of Redlands, California, stands in the midst of a public park interspersed with numerous fine trees, including peppers, cedars and palms, whose sturdy trunks and bright green foliage form a lovely foil for the warm gray tones of its limestone walls. To residents and strangers alike it extends an invitation to enter its doors and be inspired, not only by the works of foremost American artists who have directed their genius in praise of Lincoln, but even more, by the printed words of Lincoln himself which have been handed down as everlasting inspiration to mankind.

The Shrine was presented to the City of Redlands by Mr. and Mrs. Robert Watchorn, who built it to honor Lincoln and show forth his character as an ideal to follow, and also in memory of their son, Emory Ewart Watchorn, who made the supreme sacrifice in the World War. They chose Redlands as a location for it because of the beauty of the city and its surroundings and the unusual cultural quality of its citizens. They felt that the interest of these citizens was certain to make them reliable trustees of the Shrine for all time. In order that its placing and construction might be in thorough accord with popular wishes, Mr. Watchorn requested the formation of a committee of representative citizens to act as consultants and advisors. It was not hard to find those who were eminently qualified to serve in such capacity. Red-

ROUGH SKETCH FOR ADDITIONS TO LINCOLN SHRINE, REDLANDS, CALIFORNIA
Elmer Grey, Architect

THE LINCOLN SHRINE, REDLANDS, CALIFORNIA
ELMER GREY, ARCHITECT

lands had had a considerable number of public benefactors in the past. They had given it a number of public parks of unusual beauty, a library building, additions to the library, an open-air theater and an endowment for concerts. The city purchased additional land adjacent to the library to enlarge its park area and offered the center of this park as a site for the Shrine. Thereupon an architect was chosen in the person of the writer who was placed in full charge of design, construction and decoration.

That which largely inspired the design of the building is a magnificent bust of Lincoln carved out of Carrara marble by the eminent sculptor, George Grey Barnard, whose fame is international and whose masterpieces are to be found in state capitols and national centers in many lands. It is not an ordinary portrait bust, but one which once seen is never forgotten. It seems to breathe forth the very soul of the Lincoln whom the world acknowledges as immortal. His strength, his patience, and his great compassion are all there expressed. To display this bust to the best advantage was one of the main objectives in planning the building.

The ceiling of the interior is domed and is enhanced with mural paintings symbolic of Lincoln's achievements. It might be supposed that harmonious color and geometrical ornament would have accomplished a sufficient decorative purpose, but the walls and ceiling would then have added nothing distinctive of, or in praise of Lincoln. In this regard the following words of Edwin H. Blashfield, the eminent mural painter were convincing: . . . "In the public building the community celebrates itself and is preached to; it wants meaning, and meaning of the highest. If the commissioners of a State capitol came to a mural painter it would be preposterous for him to say to them: 'Beauty is all that you require in your rooms . . . beauty of pattern and line, color and figures.' They would reply: 'We have suffered and fought in the cause of progress and civilization, remind us of it upon our walls. We have had heroes, celebrate them.' "

With the force of these words in mind the question of what mural painter to select was quite a problem for a time, since mural painting and easel painting are two quite different things; and good mural painters are not numerous. In easel painting the artist strives to focus attention upon his framed picture. In mural painting he must subordinate his work to the best effect of the room as a whole. In this case he was required to subordinate his work to the bust of Lincoln. Also a mural painter should strive to decorate, not illustrate. What Lincoln did for instance can best be learned from books; the mural painter's function is to stimulate our emotions so that we have a greater desire to read the books. A task requiring so much skill and delicacy was not for every artist to attempt, and it was with great satisfaction therefore that the services of the internationally famous mural painter, Dean Cornwell, were finally secured for the purpose.

It might be supposed that the various outstanding achievements for which Lincoln stands could best be portrayed decoratively by realistic representations of Lincoln himself engaged in accomplishing these achievements. But if that were done it would occasion for one thing numerous painted portraits of Lincoln on the walls and ceiling which would compete with the portrait bust in marble. Mr. Cornwell made it clear that this would not do, that Lincoln's achievements should be portrayed by allegorical symbolism such as has been used in the decoration of the Lincoln Memorial at Washington, D. C., and elsewhere. He conjectures that this is so, partially because Lincoln did not actually himself go about freeing the slaves, but it was the spiritual idea of freedom for the colored race, which he stood for so valiantly and succeeded in spreading over the land, which finally accomplished the purpose. Likewise, it was Lincoln's superb qualities of character, his faith, wisdom, courage, etc., which finally resulted in the preservation of the Union. Hence it is these spiritual qualities which Mr. Cornwell has portrayed in an allegor-

ical manner and by the eight symbolic figures on the ceiling.

The painting in the lunette to the right of the niche is an allegory representing the emancipation of the slaves. The idea is typified in various ways; by the torch of truth which makes free, by the lyre of harmony, by the fruits of abundance and by the flowers of beauty which it is the privilege of every man under freedom to enjoy. If the costumes seem to suggest a slight eastern influence it is because the artist felt that the emancipation of the slaves which Lincoln promulgated did not apply just to those in the southern states but will have its lasting effect upon all races for all time. He was intent therefore upon having the costumes suggest no one race of people, and the East, being the cradle of civilization, was representative.

The painting in the lunette to the left of the niche is an allegory representing the preservation of the Union. It is typified by a central figure holding the two sections of the country together, while near by are other figures representing the next most stable thing in life, the union of man and wife in the home.

Mural by Dean Cornwell

LUNETTE, SYMBOLIC OF "THE EMANCIPATION OF THE SLAVES," THE LINCOLN SHRINE, REDLANDS, CALIFORNIA

Elmer Grey, Architect

Only occasionally is a building designed having as contributory adjuncts very notable examples of both sculpture and mural painting. The combination of architecture, sculpture and murals designed as a unit so far as their relationship is concerned, and

the rare historical documents which this building contains, makes it outstanding. Because of the value and coordination of its art treasures, and its Lincolniana, when future guide books of America are written special attention is sure to be called to the Lincoln Shrine of Redlands.

* * *

Mural by Dean Cornwell

LUNETTE, SYMBOLIC OF "THE PRESERVATION OF THE UNION," THE LINCOLN SHRINE, REDLANDS, CALIFORNIA

Elmer Grey, Architect

The Charles J. Wild house is done in adaptation of the French manor style. The hope that was held by many architects some years ago that the Spanish or Italian styles and their adaptations would ultimately prevail in Southern California (owing to the Spanish having been started well by the Mission fathers) has not been fulfilled. And quite naturally. The idea it seems was based on too narrow an outlook, for it should be remembered that the Spanish element of the population in Southern California constitutes but a very small percentage of its entire inhabitants. Taking them as a whole the people are as cosmopolitan as those of any other section of our country. They have the same historical and architectural background, having come from all parts of the United States and even from distant Europe.

It is not to be expected therefore that the architecture of their homes will follow any rigid chalk-line of style laid down by the first settlers. There are too many other influences at work. Many Californians have for instance come from New England where they learned to love Colonial architecture, especially its interiors with their

INTERIOR OF LINCOLN SHRINE, REDLANDS, CALIFORNIA
ELMER GREY, ARCHITECT

Mural by Dean Cornwell

MURAL REPRESENTING ONE OF THE QUALITIES OF LINCOLN'S CHARACTER, LINCOLN SHRINE, REDLANDS, CALIFORNIA

ELMER GREY, ARCHITECT

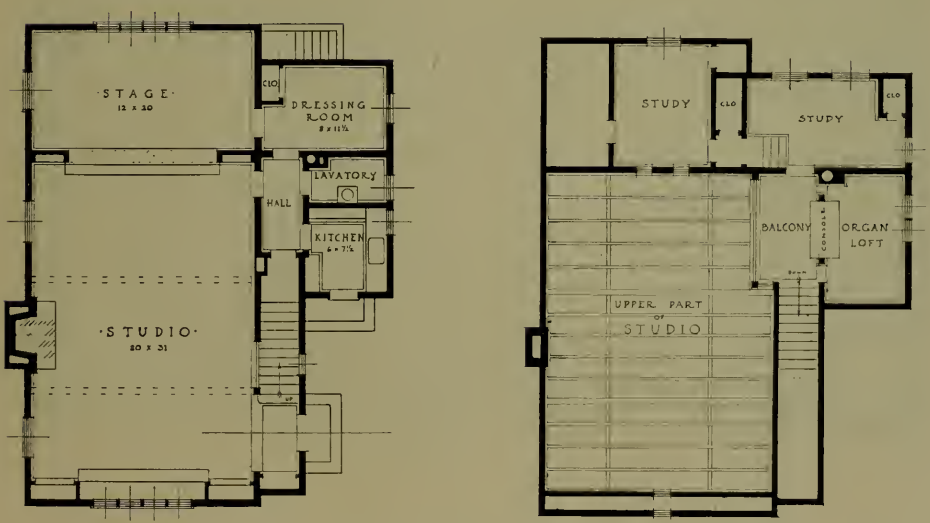
Photo by Mott Studios

RESIDENCE OF CHARLES J. WILD, PASADENA, CALIFORNIA
Elmer Grey, Architect

Photo by Hiller

RESIDENCE OF CHARLES J. WILD, PASADENA, CALIFORNIA
Elmer Grey, Architect

STUDIO OF MRS. J. M. GOSS, PASADENA, CALIFORNIA
Elmer Grey, Architect



PLAN, STUDIO OF MRS. J. M. GOSS, PASADENA, CALIFORNIA
Elmer Grey, Architect

STUDIO OF MRS. J. M. GOSS, PASADENA
Elmer Grey, Architect

mahogany furniture, etc. It is for this reason that the so-called "Early California" style has become popular—because it is a fusion of the Spanish type of Monterey with certain New England Colonial features. Thus it recalls the Spanish tradition on the exterior but permits of the use of Colonial furniture on the interior.

And because many people in California are cosmopolitan and have traveled widely it is quite natural that they should want to bring in other styles which they have seen and admired in Europe and elsewhere and have their motives adapted to the design of their homes here. In this way the French manor style has recently been used, has met with favor and has the advantage of being less hackneyed than much else that has been tried.

* * *

The studio for Mrs. Madeline Goss was erected solely as a place to give private musical and dramatic entertainments. As can be seen, the main room is patterned after some of the great halls of old English manor houses, with an open-timbered roof, a stage at one end, a stairway at one side leading up to an over-hanging balcony. There are dressing rooms for actors and a kitchen for the preparation of refreshments.

The Vicissitudes of a Young Architect

An intimate account of the early practice of Elmer Grey, written in his characteristic breezy style in four parts, with suitable sketches and photographs extending over a period of useful years. The first instalment will appear in the November issue of this magazine.

Portfolio of Buildings for Scripps College
Claremont, California

Gordon B. Kaufmann « » Sumner Hunt and S. R. Burns
Architects

Wurster Construction Company
Builders

DORMITORY BUILDINGS, SCRIPPS COLLEGE,
CLAREMONT, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT

BROWNING HALL, SCRIPPS COLLEGE, CLAREMONT, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT

ARCADE, BROWNING HALL, SCRIPPS COLLEGE, CLAREMONT
GORDON B. KAUFMANN, ARCHITECT

BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT

SUMNER HUNT AND S. R. BURNS, ARCHITECTS

BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT
SUMNER HUNT AND S. R. BURNS, ARCHITECTS

ARCADE, BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT
SUMNER HUNT AND S. R. BURNS, ARCHITECTS

BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT

SUMNER HUNT AND S. R. BURNS, ARCHITECTS

AUDITORIUM, BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT
SUMNER HUNT AND S. R. BURNS, ARCHITECTS

A STUDY IN ROOFS, BALCH ACADEMIC HALL, SCRIPPS COLLEGE, CLAREMONT
SUMNER HUNT AND S. R. BURNS, ARCHITECTS

INTERIOR OF LIBRARY, SCRIPPS COLLEGE, CLAREMONT, CALIFORNIA

GORDON B. KAUFMANN, ARCHITECT

Santa Barbara School for Boys

Carpenteria, California

Reginald D. Johnson
Architect

Wurster Construction Company
Builders

VIEW FROM CAMPUS, SANTA BARBARA SCHOOL FOR BOYS, CARPENTERIA
REGINALD D. JOHNSON, ARCHITECT

SANTA BARBARA SCHOOL FOR BOYS, CARPENTERIA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

SANTA BARBARA SCHOOL FOR BOYS, CARPENTERIA, CALIFORNIA
REGINALD D. JOHNSON, ARCHITECT

SANTA BARBARA SCHOOL FOR BOYS, CARPENTERIA, CALIFORNIA
REGINALD D. JOHNSON, ARCHITECT

SANTA BARBARA SCHOOL FOR BOYS, CARPENTERIA, CALIFORNIA
REGINALD D. JOHNSON, ARCHITECT

ARCHITECTURE AND FINANCE—TAX THE SURPLUS

by
WILLIAM LEE WOOLLETT
Architect

Part II*

THE "circulation," i.e., the credit system of the financial world in times of panic becomes weakened, the extremities become cold. Why not provide hot water bottles in the form of restrictive legislation to the end that the extremities, cold feet, irrational, and panic conditions may be neutralized and "the excess corn on the shelf" utilized to re-create values. At present, we depend on stimulants often regulated for the purpose of producing of further profits to "the manufacturer of panics." Why not use the ounce of prevention at the extremities? The "support" in time of strife which substantial interests inject into the financial system is always open to the suggestion that is "dope," i.e., investments made in the interest of preferred money holding groups. What we need is leaders of high finance who have the courage, intelligence, and the wisdom necessary to convince the people that correct ethical principles in finance are not incompatible with the true interests of the modern state.

The "rioting and looting" of speculators should be and will be averted in time as already this habit is known to be destructive. There is no excuse for the wholesale confiscation of small holdings through the panic of banking institutions. The automatic brakes through legislation are bound to be provided. Ill informed state legislation already as in the making, to say nothing of the caldron of seething purposes in Washington, D. C., purring softly, preparatory for a boil over.

What would happen if all loaning agencies came under a common ban, to the effect that loans foreclosed showing no equity must be carried at the expense of the entire loaning group? Would this provision tend to prevent careless loaning of money, and needless foreclosure?

There are laws which protect the wage earner in a very wonderful way. His condition is infinitely better as regards his relation with his employer than it was a decade ago. The law takes the view that the wage earner is the ward of the state, and thus seeks to protect him from the unscrupulous employer. The poor are the little children of the rich. The inexperienced in financial matters, be they very rich or very poor, should be deemed to be wards of the state. They should be protected from the importunities of the unscrupulous. The state requires order and equity in the minor business transactions of the individuals composing the body politic.

The ever recurring cycle wherein the rich and the poor alike become prey to the easy money mania until they are fed up, is amusing and necessary. But why not put a hot water bottle at the feet of the patient? He might come back a little stronger for the shearing, stay a little longer during the milking process, and enjoy the process to a degree himself. The body economic as a whole might thereby develop staying powers so that normality may become chronic. *Prosperity is a condition of mutual helpfulness.* Friendly barter is the keystone of commerce. *Society as a whole does not profit from the congested savings of the people.* It certainly does not profit from

Part I was published in the September number.

the poverty of the consumer. *We should tax the surplus!* We must tax the gambler out of existence.

But according to our theory previously expressed, the gambler should be encouraged to express his individual urge to gamble. Indeed, this is true. He should be encouraged until he puts himself out of business. Is this happening?

All of the great *vested interests believe in the prosperity of all the people all of the time.* But the "cannon fodder" of humanity, rich and poor alike, "click" with the laws of economics a little better each time the bill is paid. More legislation for conserving stability should be the paramount business of the moment. More examination of the fundamental laws of economics should become the business and amusement of all mankind. *Our children should be taught the function of credit and the nature of wealth.*

I am amazed at the unscientific way in which public officials are going at this unemployment and financial problem. I say unscientific, because it is a well known fact that the disease of unemployment and financial depression is occasioned by over-production. The effort should then be definitely in line with the governing of production. I see no effort to definitely decrease production on a large scale. The oil interests and a few other lines have done something to be sure. But we want the entire problem under examination. Our public moneys are now so often easily spent and unwisely invested in surplus irrigation systems, surplus roads, surplus wheat, surplus educational facilities, etc., that generations of posterity are impoverished. In the opinion of some economists, we are doomed to a period of wholesale repudiation. I hope that this is not so.

At this time, the first thing we need is information and the willingness to look the information in the face. Lacking this attitude, we may expect nothing of lasting benefit from all our examination.

When I see an inclination to pile up bonded indebtedness of the city, county, state, and government, in order to provide a temporary paliation of the evils from which we suffer, I get the idea that someone is either not thinking or that someone is welching, probably a combination of both. A search for the stores of wealth which are bulwarked behind the encircling battlements of excess production, is now in order. To be quite specific, *excess production is largely the result of speculative effort.* By what right does an individual create a commodity which may cause the downfall of every like commodity including his own? Take oil, for instance.

Our financial system fosters the use of money and credit for advance production. This advance production opens an ungodly maw for the securities which are discounted for loan purposes and rediscounted to the nth power. This makes credit cheap or prices high, which ever way you want to say it. Without interest and interest bearing securities, advance production would have to be provided out of savings rather than on borrowed money. The scope and power of "interest" is increasing its permutations and combinations. In the hands of skillful manipulators credits create a semblance of power. It has proven a rope of sand. We need to chain the god, interest, to know its potentialities, to cultivate its pacific benefits.

The willingness of capital to deprive itself of the temporary benefits of the speculative angle in order to bolster economic balance, is the number one question, the one outstanding need of the commercial life of the day! The answer of this or any other like question must come out of the race-consciousness. Laws will do no good! look at prohibition! We want wisdom, a unit consciousness, among our people. This can come only through the guiding of thought processes due to race intelligence. Our nation and the world must be set to think along correct lines in order that we may emerge, after decades perhaps, with this healing consciousness.

The creation of new issues of obligations like street, city, and government bonds as a temporary remedy for unemployment, results merely in the encircling of another realm of power and stored wealth. New and more flexible and less conservative types of mortgage and finance companies only serve to disintegrate the underlying foundation of credit. Conservative old line corporations and banks with less liberal

borrowing power envisage these new financial organs as "bucket shops." The professional financial gamblers will be the only ones ultimately to profit by a more liberal borrowing policy.

But by using the money raised by tax on incomes on non-productive permanent works of public benefit, will serve to get the stored wealth into general circulation and no kick back for future generations.

Let us turn to history for an answer. How have past civilizations contrived to utilize the "surplus" which is inevitable in any regulated, governed, prosperous community? I say inevitable, because the speculative, outreaching, growing, tendency of man is to create. It is the one outstanding fact of history that man moves with his flocks and herds to larger, greener, pastures. It is the opulence and power of man which makes war, it is the pressing of production in some field, i.e., population on some natural limitation, lack of water, lack of commercial contact, lack of consuming power. Always some lack asserts itself in a tendency to move in the direction of least resistance.

Now! information, historical research, *willingness to face facts, breaks down the barriers and enables man to see and know quickly the angle of least resistance.*

History first impresses us that the surplus of the past civilizations has gone into unproductive monuments. Egypt left her temples, the Pyramids and the vast Rock Cut Tombs. Greece left her temples, theaters and sculptures, the Roman Empire its Thremae, Acquaducts, Temples, Palaces; and the Gothic age its cathedrals, etc. It is very simple in principle. If you spend a million dollars on a nice pile of dead stone and go away and leave it there, the money spent has gone into labor, food, clothes, life and living for certain individuals—an unending source of wealth; and the creative processes have been re-established. If, on the other hand, the cost of an enterprise is projected into the future in the form of dollars out at interest, which means taxes on the homes, incomes, etc., of the workers who produce the pile of stone, we have a debt situation which may be re-expressed something like this. I have eaten an apple (meaning the wage). No one gave me the apple; the apple was loaned to me. I cannot give the apple back, and I cannot give back the value of the apple; but I will pay interest on the value of the apple for all time or until I can save enough to pay for the apple. Public enterprises should be paid for out of hand if up keep is necessary, the interest should be provided out of taxed incomes or taxed surplus.

God gives man the flocks, the brooks, the winded steppes. Man plucks from the stored riches of the world and lives. So the stored riches of mankind, the surplus, is another form of nature's stored riches. *The "surplus" should be organized for the use of mankind,* as it is by primitive peoples.

Why not consider that the apple is gone? The apple to begin with was owned as "surplus" i.e., no one could eat it. Like the tree made by God, the surplus apple came from the lap of nature.

The commercial life of man is a phase or "spasm" of nature, if you like, and all the surplus of this commercial life belongs to mother nature to whom we all belong, to whom we go, and from whence we came.

But economics seem to abhor the vaccum of a gift. The very idea of giving or getting something for nothing seems to be anathema. Is it a gift if the accumulated wealth of a common-wealth like the United States is taxed, even to the point of extinction for the common weal? But *we are, as said before, dependent on this surplus as a back log for industry and commerce.* How shall the two ideas meet?

How shall we in fairness, knowing our dependence on the cumulative powers and intelligence co-ordinate with accumulated wealth draw off the wealth and intelligence which we need? For we need not only bread but also ideas. How shall we, all mankind, become the beneficiaries of a system of taxation which at present continuously and painfully liquidates our surplus in the interest of congested "surplus." How shall we do this without the charge that we are looking with greedy eyes upon the just earnings of others?

There is a way to at least begin on the problem and in a manner to which no sane

man can object. We will tax first the evil which we can plainly see. Consider the surplus automobiles. Every man who uses an automobile is paying interest on the thousands of idle rotting automobiles all over the world, and the cost of owning his automobile is increased because of the clumsy, dingy, financial methods which govern the production of automobiles. Every idle, unsold automobile two years after it is made might become confiscate to the state and sold to the highest bidder. This provision would assure against a certain part of the waste in automobile production. It would probably put some firm out of business, but why not now if not sooner? There are many other ways of applying this principle, a generous tax on idle automobiles as already mentioned would help.

Too many automobiles, homes, and "corn on the shelf," compel idleness. Why have we automobiles, homes, and "corn on the shelf," which cannot be sold? Why this ever recurrent *forced holding of a vast unemployed surplus?* We have a surplus because of the uninformed grasping of a speculatively inclined public. *Why should these commodities be allowed to disintegrate and disappear while being held for future distribution?* What of the millions of tons of food which spoil in storage or in the fields unharvested? In the hands of the consumer, these same commodities, would contribute to the well being and general prosperity of the community as a whole. How to get the *"unemployed and disappearing surplus" into the hands of the consumer without violating the sacred laws of "prosperity rights" is the question.* The answer may be — *tax the idle and superfluous material, tax superfluous unemployed land, tax speculation, take "surplus" out of the competitive column where it hangs as dead weight and into the hands of the consumer.* Economists will tell you it were better that this surplus be dumped in the sea, if not needed. But by means of the subterfuge of taxation, the dumping would be after someone has had the chance to ask for it and pay for it. A black haired man will buy a red wig, if you will sell it cheap enough!

No man should be without the means of transportation today any more than in former years could he rightfully be prevented from using the "King's Highway." A way should be found by means of which a man's transportation should be "encouraged." The nearest thing to the "King's Highway," in automobile ownership would be by means of a tax which would accelerate the sale, under certain conditions, of every automobile of a certain age not in the consumer's hands. *You practically create a "King's Highway" on wheels when you set out to tax all idle automobiles.*

But it is patent that many commodities other than automobiles are thus held to deteriorae in storage. We have the aspect of bulging elevators, over-stocked dairies, and at the same time, hungry people. And we have not accepted the idea of the Dole as being the way out of our troubles. It is work that we want for the people. But public works of any kind initiated for this purpose are not without their accompanying evils. More public buildings, etc., for instance, mean bond issues, increased taxes; and then additional taxes, for maintaining these improvements becomes part of the picture. We are already threatened with repudiation of certain obligations, so heavily have we in the past drawn upon the savings of future generations. The improvements needed to keep people employed should be provided from funds derived from taxing large incomes, and should not be paid through taxing the very people for whose benefit the improvements are projected. This sounds Bolshevistic. If you do tax the surplus for unproductive and self-sustaining public monuments, such as roads the result will be that the wage earner will implore you to tax his surplus. He will always be ready to trade a surplus for a job.

To alleviate the suffering of the poor by means of work provided by a tax on their future, is to duplicate a system long worn out. On the other hand, if we create permanent concrete roads which require a minimum of upkeep, or some other form of publice benefit, which does not imply upkeep charges, *we come nearer to a solution of the unemployment problem.*

We are living in an age when man can produce of all kinds of things more than he can use. Wars and famines have been useful instruments for dispersal of the surplus

savings of the human family. *As soon as a man's belly is full, he wants to fight something or gamble.* Modern civilization heaps upon us earnings, but not always devises perfect methods of distribution, nor devises a stomach large enough to match our eyes. The corn stays on the shelf. Sometimes the owner of the shelf stops piling up more corn and production ceases. What would happen if the owner of the shelf were not allowed by law to pile up any more than he would guarantee to sell, or in other terms, what if surplus stock of goods would be required to represent earnings rather than a mere extension of credits and be taxed accordingly.

Building permanent roads, roads not requiring upkeep, today would provide a means for dispensing the decaying surplus, the rotting "corn on the shelf." The incidental cumulative charges for upkeep and maintenance which accrue to the individuals who held ware-houses of automobiles and produce doomed to be lost through non-use, could be saved. These products taxed out of their seclusion would build many "pyramids" and much good roads. Of course, it is not so simple as all that! In ancient Egypt, for example, there was so much corn and so many hungry people. The king did the rest—unhappily we have no king. A complex modern state requires an elaborate segregation of surplus—"corn on the shelf" and hence the proper dissemination of this surplus to labor is a difficult problem.

The justification for the expendtiure of moneys on public monuments is the necessity for men to work for a living rather than be given a living. The needy should be provided for, undoubtedly, but reduce the number of needy by supplying work.

[Concluded in November Number]

RESIDENCE FOR MR. AND MRS. HARRY POLLOK, POINT LOMA
Wayne D. McAllister, Designer

SECURITY THROUGH PLANNING

by
HUGH R. POMEROY

SAN Mateo County has embarked upon a planning program which intimately affects the welfare of all of its citizens. The County Planning Commission has been intrusted with the task of preparing a Master Plan which shall include those subjects under governmental jurisdiction which relate to the physical form and appearance of the county. This plan will include streets and highways, land use or zoning, parks and recreation, transportation and transit and other subjects relating to the physical development of the county. The county has no intention of furthering these plans to a point of realization; rather they are a means to an end, that of providing a pattern and guide for the future growth and development of the county. By the latter process the citizens of the county are having provided the definite assurance that they will not later be taxed for reconstructing the community. Certain reconstructive processes are necessary, such as the widening and realignment of traffic thoroughfares through communities already developed, but, in the main, the Master Plan will indicate the physical framework into and around which the future development of the county will grow and from which it will take its form.

Each phase of the Master Plan has a distinct bearing upon the welfare of the county. The street and highway plan not only will prevent future expensive reconstructive activities but will offer a basis for the orderly and most beneficial development of the county. It will make possible the scientific expenditure of road funds, both for construction and maintenance.

The zoning plan will protect the values and the use characteristics of property, preventing the intrusion of objectionable uses into residential neighborhoods and providing for the orderly development of commercial and industrial districts. Control of roadside uses will assure beneficial land use development and will prevent the highways of the county from being made hideous by shacks and signs.

The park and recreation plan will provide for the development of the great recreation assets of the county, which are of significance not only to the inhabitants of the county but to those of the entire San Francisco bay region. In this class are the beaches, the mountains and the bay front. Standards will be established for the provision of necessary recreation facilities for the various community neighborhoods of the county.

Such plans as the foregoing and the others to be comprised within the subject of planning, will serve as the physical basis for a definite financial plan, whereby it will not be necessary to make at one time inordinately heavy expenditures for any one public purpose but through the years there will be applied a budget of capital expenditures. It is possible to provide the physical necessities of the community without undue burden simply through the efficient management of existing sources of revenue

in the light of comprehensive physical planning.

The foregoing program is not one to be developed over night: it will be the product of gradual evolution over a period of years. The work thus far has consisted largely of securing the necessary basic data, covering land uses, traffic flow, the physical condition of the road and highway system of the county and the physical conditions of the shore line of the county.

These data are being assembled in order to give a competent background for the preparation of plans. There is no elaborate program of work under way but, under a budget which is thoroughly reasonable as related to other county activities, the work of the Commission is carefully laid out according to a program which was prepared at the inauguration of its work in September, 1931. By adherence to this program lost motion is obviated and all activities of the Commission tend toward a definite objective.

The work has been carried on carefully within the scope of county policy as determined by the Board of Supervisors and has received general support by the cities, the civic organizations and the people generally of the county.

By the work of the County Planning Commission the development of the county is given definiteness and there is the assurance that disorder and wastefulness will be prevented. The expenditures for planning are but an infinitesimal part of the great savings which will result.

Street in Steep Hillside Subdivision 20' Minimum Roadbed

Community Parking Area for Steep Hillside Subdivision

COUNTY PLANNING IN CALIFORNIA

SAN MATEO
Has Ambitious Program

THE following report and forecast, together with the illustrations, are reprinted by courtesy of the author, Roy N. Bishop, chairman of the San Mateo County Planning Commission, and Hugh R. Pomeroy, advisor to the commission:

The San Mateo County Planning Commission was established under the provisions of the California Planning Act by County Ordinance, adopted June 15, 1931, and completed its organization as a part of the county government during the ensuing six weeks.

Six members of the commission serve without compensation and three county officials are, according to law, members of the commission and serve without additional compensation.

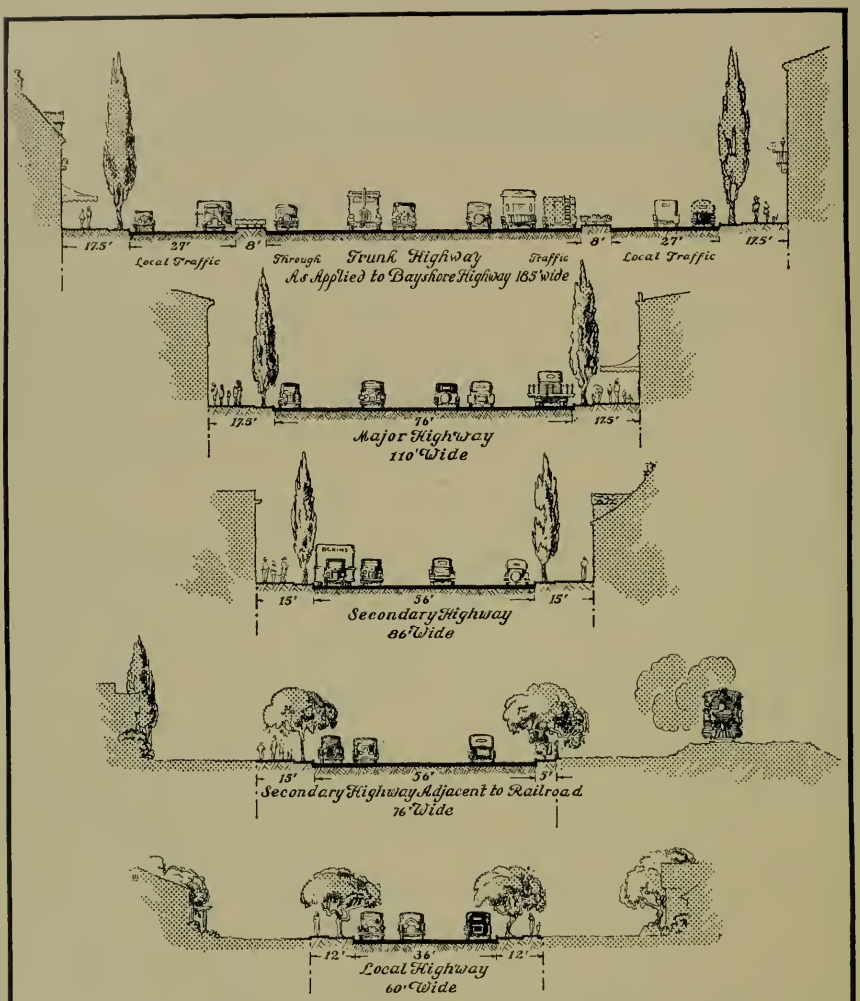
The commission was established as the active means of assurance that the county should grow according to a plan and that its development should be socially and economically sound. Therefore, realizing that "good planning should be well planned" the commission prefaced its work with a survey of the field of planning and an examination of the physical and developmental features of the county and upon that basis outlined a definite program of work. This program sets forth the elements of a Master Plan adequate to serve as a pattern for the growth of San Mateo County and outlines the principal features of planning administration to accomplish this purpose.

Pursuant to this program the commission first formulated the procedure and regulations for subdivision control, submitting these to conferences with representatives of the municipalities and of the realty boards of the county, then recommending them to the Board of Supervisors for adoption. Several subdivision maps have been considered under these regulations, which already are proving their social and economic value to the county.

In the assembling of data looking toward the preparation of a County Highway Plan, the commission has under way a thorough survey of the county roads and highways, covering the nature of their rights-of-way, their physical condition and the nature and extent of marginal uses, with seasonal traffic counts to be made.

By the time these data have been gathered, the commission will largely have completed a survey of the major land uses of the county, which is now being made. This will be a functional analysis of the county, serving as a background for all of the elements of the county plan, and is of immediate necessity in the development of the highway plan and for county zoning.

As an individual project, forming the first unit in the Highway Plan, the commission has undertaken consideration of the Bayshore Highway. This artery is a high speed thoroughfare of high traffic efficiency, largely because of the almost complete absence of attrition of its through traffic capacity by marginal uses and because of the limited number of intersecting thoroughfares. The former condition will in part, be preserved by reason of the 125-foot right-of-way, but expansion of the

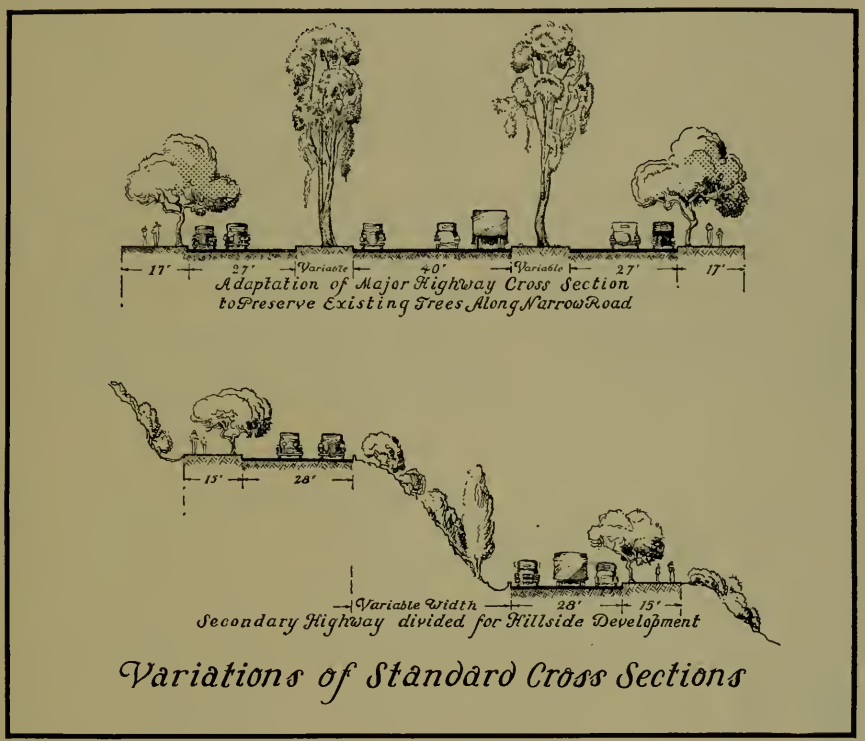


Highway Cross Sections

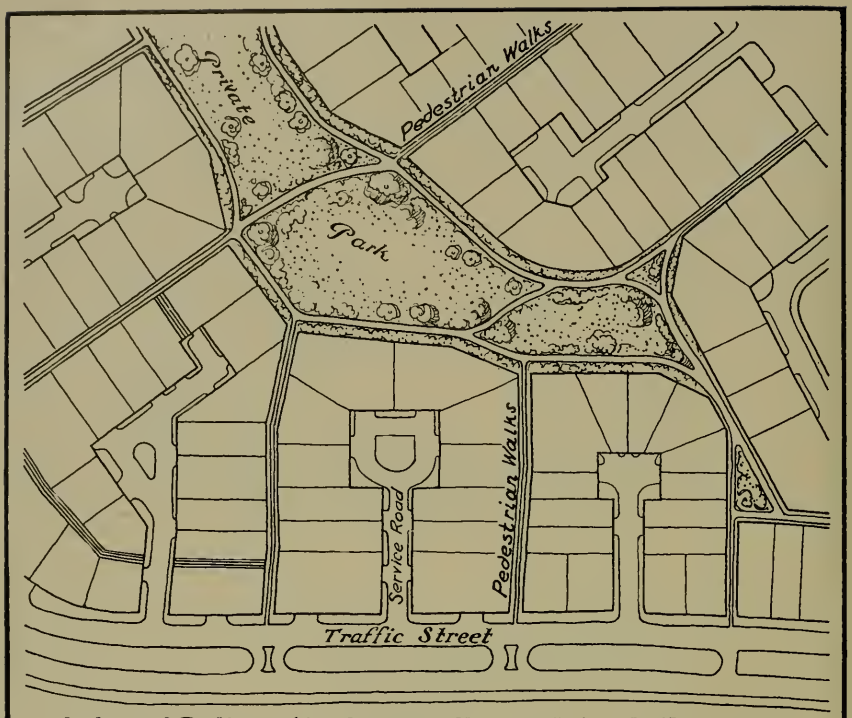
urban areas from El Camino Real to the Bayshore Highway and the industrialization of the properties on the bay side of the highway will serve gradually to reduce it to the category of simply a wide city street. A study of this problem convinced the commission of the necessity of preserving a through traffic character for Bayshore Highway and led to the adoption, with the approval of the State Division of Highways, of a cross-section providing for the segregation of through and local traffic on separate roadways. To this end, the dedication of an additional 30-foot width on each side is being required in all new subdivisions and the commission is now engaged in proceedings for the establishment of building lines protecting a similar width along frontage already subdivided and frontage not yet subdivided. By this procedure San Mateo county becomes the first county of the State to adopt a section of the master plan of highways and at the same time to establish under the police power official street lines based thereon.

The North Palo Alto district has petitioned the Board of Supervisors to provide zoning protection for that territory. Pursuant to this petition the board instructed the Planning Commission to proceed with the preparation of a county zoning plan. This will first be applied in the district lying between the cities of Belmont, San Carlos, Redwood City, Atherton and Menlo Park on one side, San Francisco Bay on another and the Santa Clara County boundary on the other. It is anticipated that county zoning will ultimately provide:

A—The protection of detailed urban zoning regulations for the unincorporated



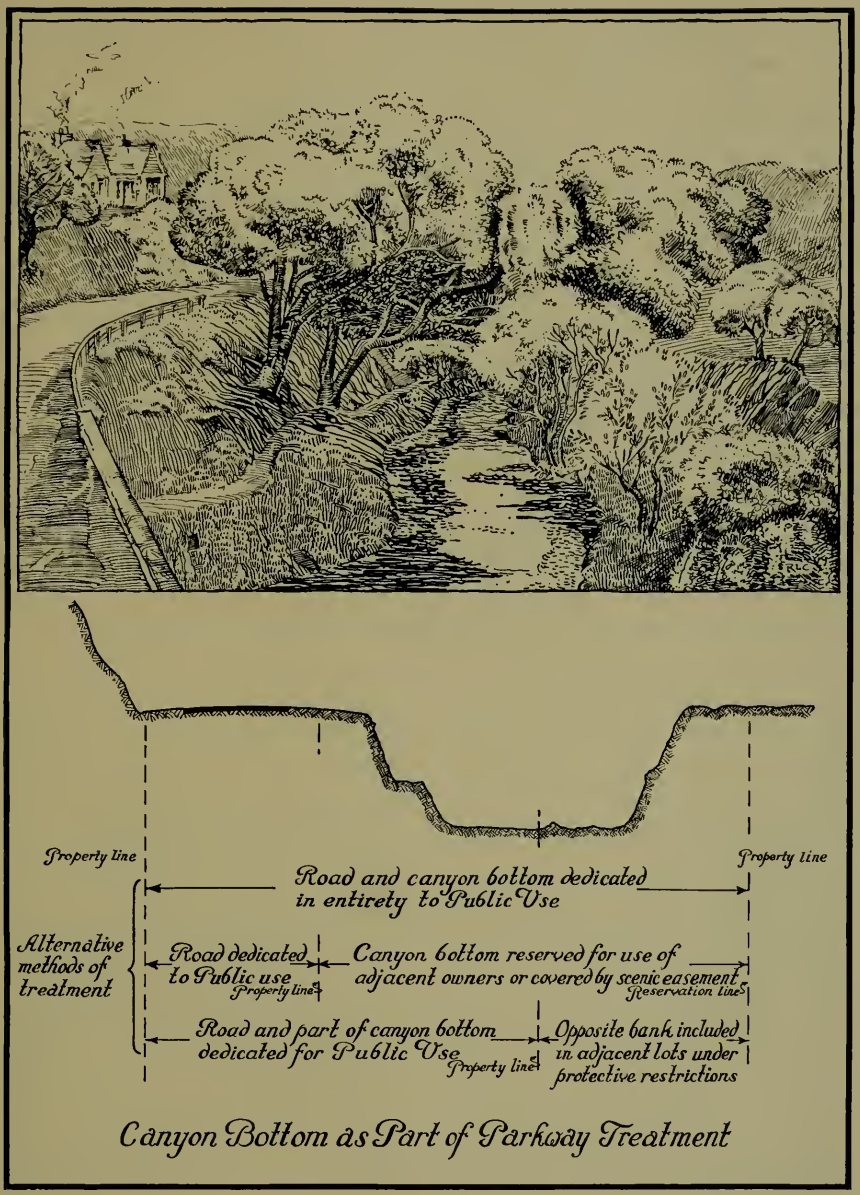
Variations of Standard Cross Sections



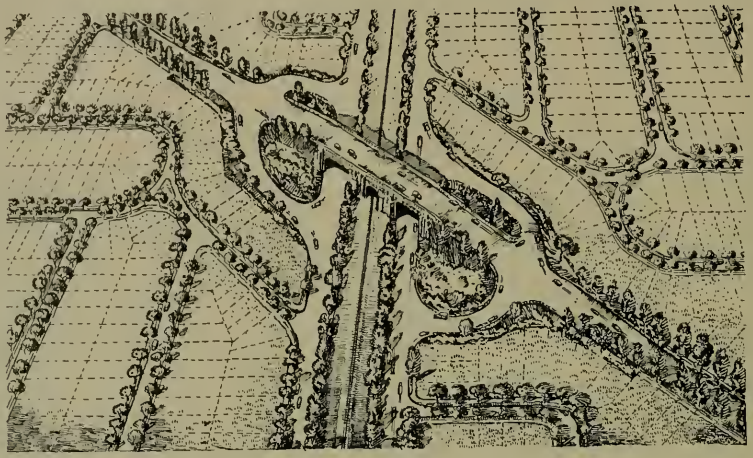
Section of Radburn New Jersey ro Showing Lots abutting upon rights of way each serving only as a means of access to the lots abutting thereon. Traffic passes by rather than among the houses

Houses Face Front Yards and Pedestrian Walks Rather Than Streets Carrying Traffic

Cul-de-Sac Service Roadways Give Access to the Rears of Houses


Property line
Property line
Road and canyon bottom dedicated in entirety to Public Use
Alternative methods of treatment
Road dedicated to Public use
Property line
Canyon bottom reserved for use of adjacent owners or covered by scenic easement
Reservation line
Road and part of canyon bottom dedicated for Public Use
Property line
Opposite bank included in adjacent lots under protective restrictions

Canyon Bottom as Part of Parkway Treatment



"Clover Leaf" Type of Grade Separation Providing Complete Interchange of Traffic as With Suggested Subdivision Design to Adjust Layout to Separation

towns of the county and for the unincorporated interstices in the metropolitan mosaic;

B—Protection for the distinctly scenic areas of the county; and

C—Marginal protection along the highways in the county.

As a step toward one of the elements of a recreation plan, the commission is now making a detailed survey of the county's ocean beaches. This study is looking toward the ultimate objective of:

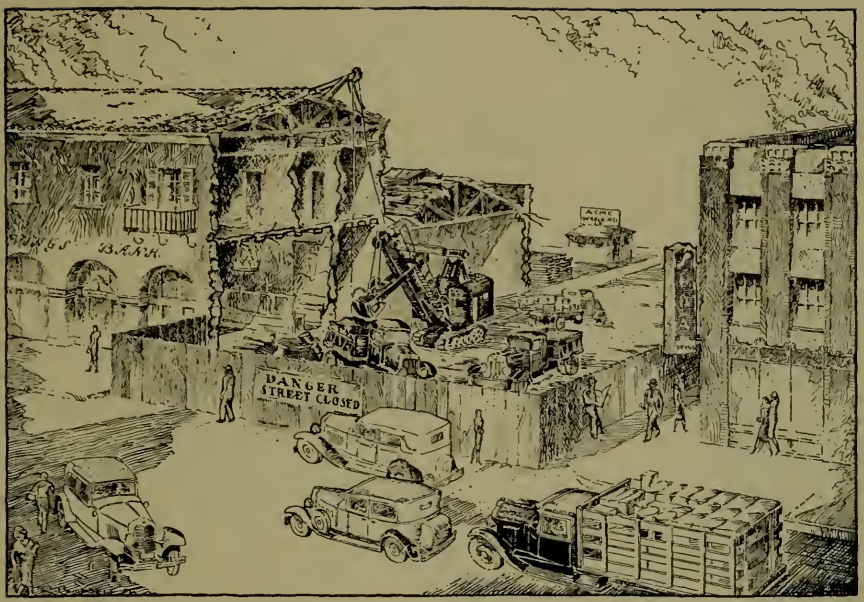
A—Beach acquisition, as may be found advisable:

B—Provision of access to the beaches; and

C—Provision of picnic and auto parking space adjacent to them.

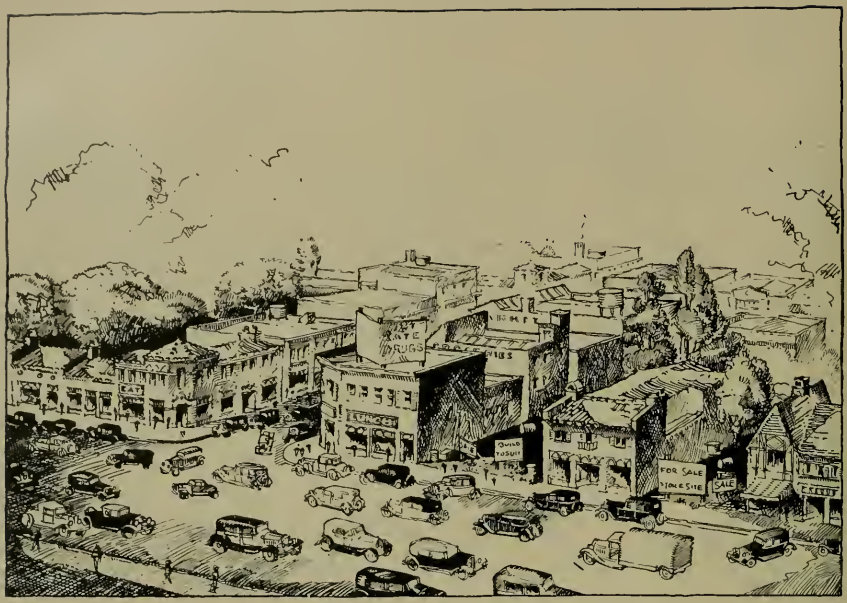
These are two phases of county planning which affect but few counties of the State. Particularly because of the prospective industrial development of the shore of San Francisco Bay and because of the suburban character of portions of the county in relation to San Francisco, these two phases of planning will ultimately be integral elements of a county plan for San Mateo county.

Altogether, county planning in San Mateo county is moving forward according to a carefully defined program, upon the basis of thorough fact finding and functional analyses and in the light of broad principles of community design. It is keeping close to the people of the county with frequent conference and public discussion of its aims and operations. By all of this it is engaged in making and administering a county plan which shall be more than a mere hope, serving as a fundamental pattern by which the development of the county from now on will take its form. San Mateo county is concerned with county planning only as it shall derive its form and character from the actual life of the county and is concerned with county plans only as they shall be inserted into the development and government of the county.

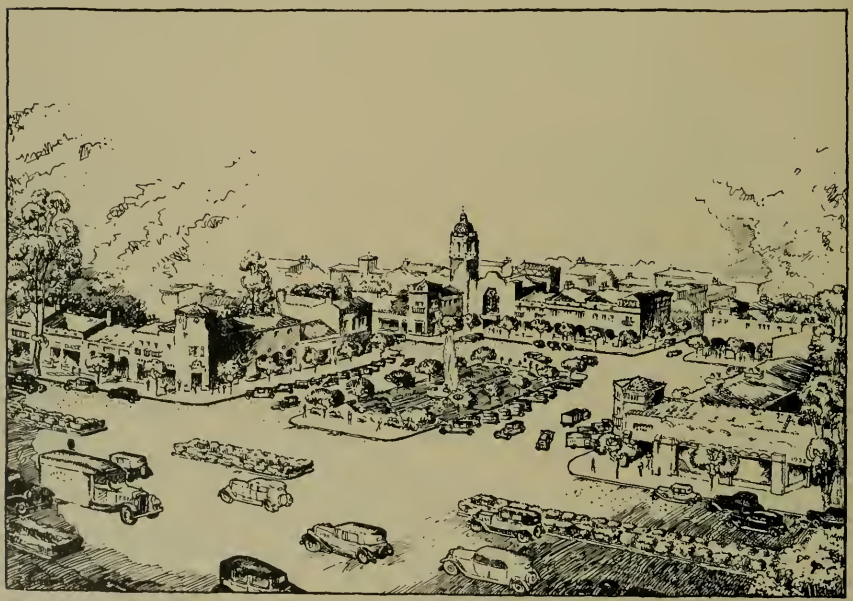


HAPHAZARD GROWTH TENDS TO CHOKE ITSELF, UNTIL CONGESTION AND INCONVENIENCE FORCE RECONSTRUCTION

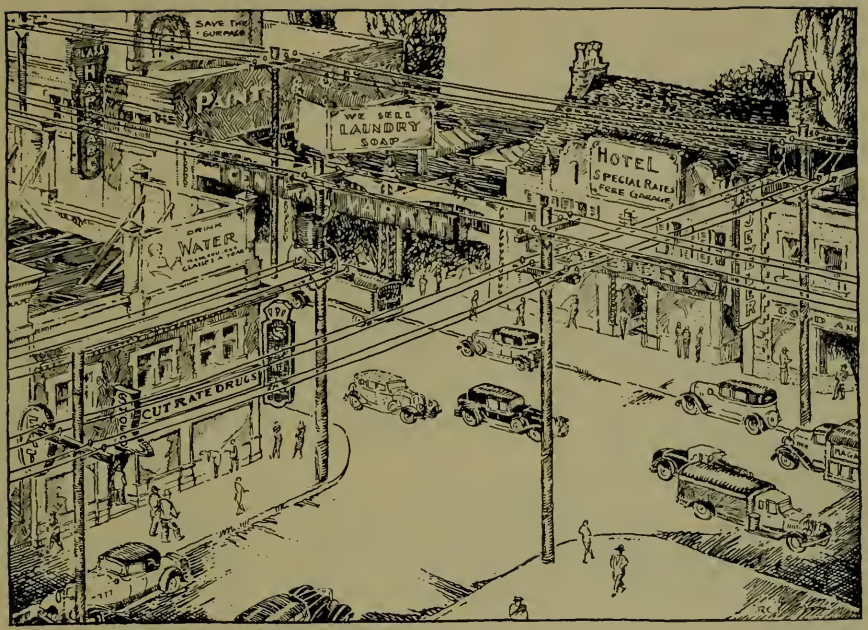
APPLYING THE COUNTY HIGHWAY PLAN AS A GUIDE TO DEVELOPMENT THROUGH SUPERVISION OF SUBDIVISION PLANS AND BY THE ESTABLISHMENT OF BUILDING LINES IS INSURANCE AGAINST THE HEAVY COST OF RECONSTRUCTING OUR COMMUNITIES



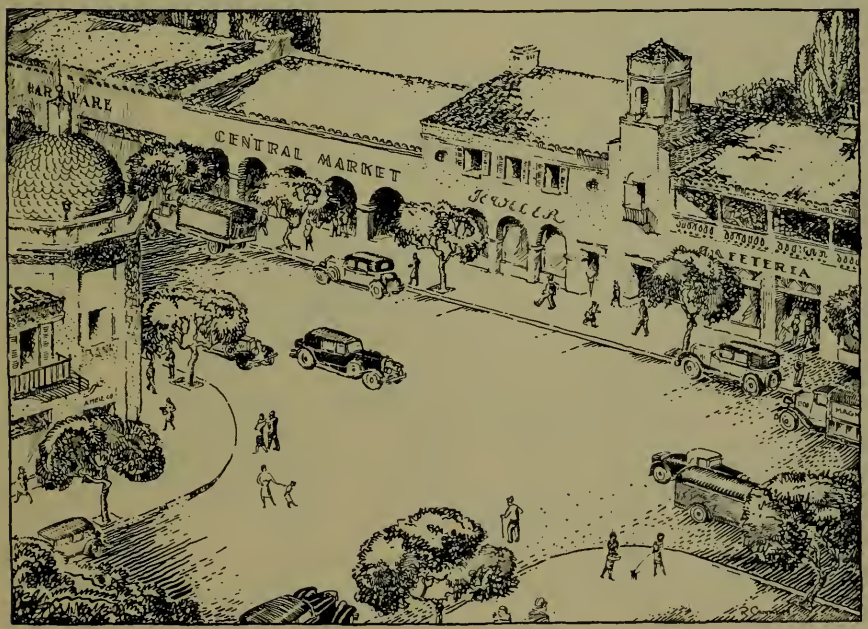
BUSINESS DEVELOPMENT LINING A MAIN TRAFFIC THOROUGHFARE PLUNGES LOCAL TRAFFIC INTO THE THROUGH TRAFFIC STREAM, DESTROYS THE EFFECTIVENESS OF THE HIGHWAY AND BLIGHTS ITSELF IN THE RESULTING CONFUSION



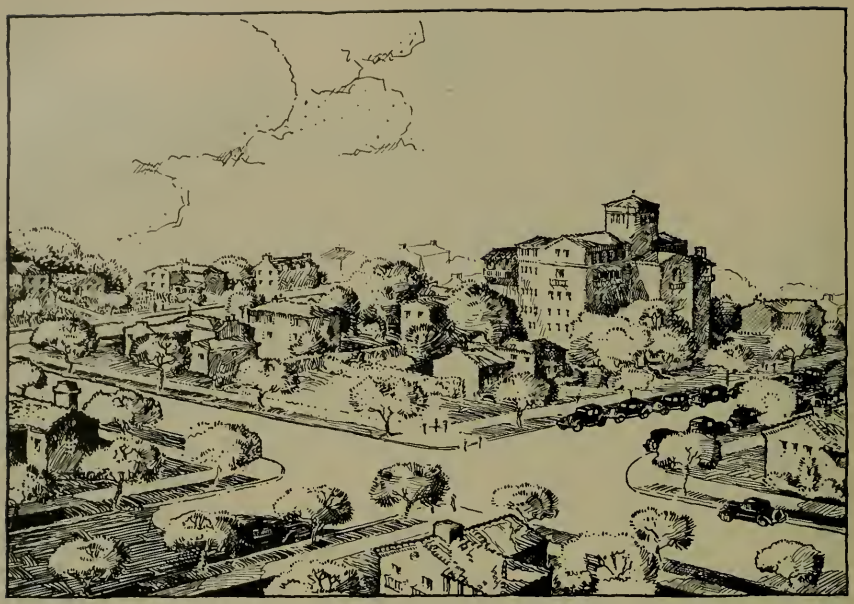
SEGREGATED ROADWAYS AND A PLAZA TYPE OF BUSINESS DEVELOPMENT PROVIDE ADEQUATE SPACE FOR "SHOPPING" TRAFFIC, PROTECTED LANES FOR LOCAL MOVEMENTS AND EFFICIENT ROADWAYS FOR THROUGH TRAFFIC



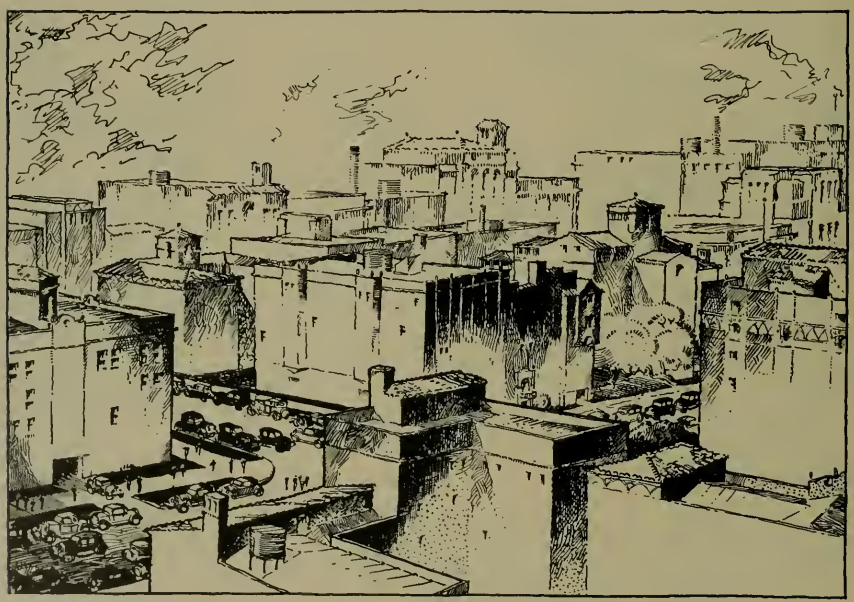
THIS BUSINESS DISTRICT JUST GREW—"IN THE USUAL WAY"



THIS ONE COST NO MORE, IN THE AGGREGATE, TO BUILD—BUT IT WAS DESIGNED

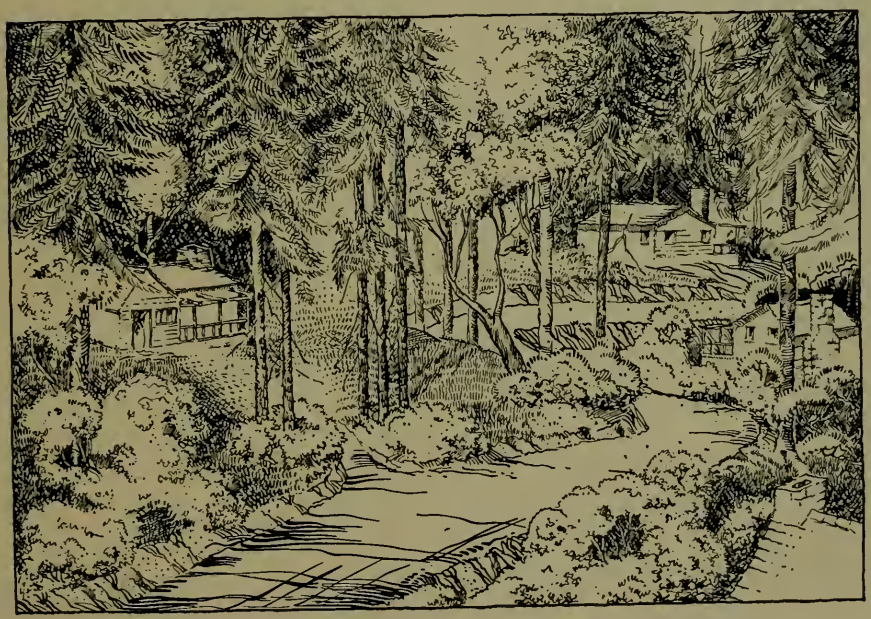


THE FIRST APARTMENT HOUSE IN A NEIGHBORHOOD TO OCCUPY MOST OF ITS LOT DOES NOT SUFFER SO LONG AS THE NEIGHBORS FURNISH THE LIGHT, AIR, OPEN SPACE AND PLEASANT SURROUNDINGS



AN APARTMENT HOUSE COVERING MORE THAN FROM FIFTY TO SIXTY PER CENT OF THE AREA OF ITS LOT IS A PARASITE ON THE OPEN SPACE OF THE NEIGHBORHOOD AND LEADS TO THE ULTIMATE BLIGHTING OF THE DISTRICT

DOES THE CABIN-SITE BUYER SEEK A REPETITION OF CITY CROWDING IN THE MOUNTAINS?



OR DOES HE SEEK THE SECLUSION AND SPACIOUSNESS OF THE OUT-DOORS?

PERMANENCE IN ARCHITECTURAL DESIGN

by
THADDEUS JOY

FROM the fourteenth edition of the Encyclopaedia Britannica comes this definition of architecture: "The art of so building as to apply both beauty and utility. The end of architecture is to arrange the plan, masses and enrichments of a structure in such a way as to impart to it interest, beauty, grandeur, unity and power without sacrificing convenience."

May we not add that the end of architecture is also to impart a permanent quality to the structure, a quality which is fundamental to all good architecture of the past. Is it not fundamental to all architecture of all time? For the carrying out of a design, of whatever merit, in more or less perishable materials seems to be in the nature of stage craft rather than the practice of sound architecture. Yet excellent design is carried out today in forms which are not permanent, which have but comparatively few years in which to perform their functions and to minister to the longing for beauty by mankind.

The houses that we build today of stucco on wooden frames all testify to our preference for the character of permanent construction in the forming of deep cut openings and other masonry details which proclaim a falsehood, but appeal to the sentimentality which is a part of our human nature, and although we do not like to be sentimental in practical affairs we unconsciously respond to the lure of things that endure.

Is it not better to build our houses of truly imperishable stuff, masonry, brick, adobe or concrete, that cannot be swept away by fire or gale, but will resist the wear and tear of time, be cooler during summer heat, and more economically heated in winter, will prevent fire and oppose decay; that can be passed on to unborn generations?

A well designed house becomes out of date only in its equipment, and equipment such as automatic refrigerators, other mechanical devices and heating appliances being manufactured in independent units, can be replaced as they are outgrown in our rapid material progress, so that a house built to outlast the centuries need not become outworn.

Who is so calloused to the touch of sentiment as not to feel the appeal of knowing, as he passes his portal, that it will stand to greet posterity for a century or more?

I stood one day on a lovely terrace overhung with ancient grape vines, overlooking the vale of Carrara, the inexhaustible quarries, wooded mountains and the sea. The walls of the villa were beautiful in tones that time had bestowed upon them and the air was sweet with the fragrance of an old garden. It was not one of the famous villas. It was not well planned, but the lure of its mellowed age reflected on wall and pavement, was irrestible. I spoke of charm and ancient loveliness to my friend who occupied the place. "The house is not old," said he. "It was built about a hundred years ago."

Is the appeal of sentiment always to be repelled? Have we not a right to be proud that we build for future generations?

In the designing of years to come, our edifices will take new forms as we develop a new style or break, in rebellion, with all tradition, but the houses of a day that is gone, if substantially built, will stretch forth the hand of memory in wethered walls and lovely casements to welcome the seeker for contentment and peace and he will respond to the sweetness and charm that only age can give.

CONCRETE FOR HOOVER DAM

Part III — LINING of DIVISION TUNNELS

by
W. R. NELSON, Assistant Engineer

THE type of conveyance now used for transporting concrete from mixing plant to pouring site depends upon the means adopted for placing the concrete in its final location. Trucks loaded with two 2-yard bottom-dump steel buckets are employed when the concrete is conveyed from trucks to pouring site by gantry crane, and the agitator drum, mounted on truck, is used when it is possible to pour concrete directly into place or into a chute leading to a hopper, where it is transferred to the steel buckets.

The inlets of all diversion tunnels have been excavated to the portals and a concrete arch cofferdam built around each portal for protection from floods. A rock fill nearly to the top of the cofferdam has been made between these structures and the river, and as a result trucks can not be driven directly into the tunnels at these portals.

The present procedure for pouring the 3-foot lining in the diversion tunnels is to transport the concrete from the mixing plant to the inlet portals in 4-cubic-yard agitator drums. Upon arrival at the tunnel portal the concrete is dumped into a chute leading to a steel hopper, from which it is dumped into the steel buckets as desired. These buckets, two of which are loaded on each 10-ton truck, are then conveyed to the pouring site, where a 10-ton gantry crane lifts the buckets from the truck and moves them to the pouring position.

Lining diversion tunnels is performed in three operations—the invert section, comprising the lower 74° of the tunnel, is poured first; this is followed by pouring side walls, 88° on each side; followed in turn by pouring the remaining 110° in the roof or crown of the tunnel. All sections are poured for the same linear distance, so that a transverse construction joint is secured around the entire periphery of the tunnel. At present this section is 40 feet in length for all tunnels except in the portions of the two outer tunnels, which will later be used for spillway purposes, where the construction joints are placed 26-2/3 feet apart.

Preliminary Operations

Following the excavation of a tunnel to its full 56-foot average diameter, the first operation preliminary to lining is the pouring of a concrete gantry rail base on both sides of the tunnel. The top of the foundation is 3.1 feet in height above the finished tunnel invert, and its inside corner is accurately poured to line and grade at a distance of 15 feet 9½ inches from the center line of the tunnel, with the result that the corner is located 24 inches from the finished face of the concrete lining, the 24 inches being the specified minimum thickness of lining. On each of these bases, which have an average width of 2½ feet, is placed a 6 by 12 inch timber, to which is spiked a 90-pound rail. On these parallel rails is then mounted the 10-ton gantry

crane, which is capable of traveling along the tunnel at the rate of 300 feet per minute. The transverse traveler of the crane, equipped with two hooks of 5 tons' capacity each and operated by a 10-horse-power electric motor, has a traveling speed of 125 feet per minute and a hoisting speed of 100 feet per minute.

Longitudinal steel side forms 2 feet high, made up in sections 10 feet long, are set in position on the concrete foundation and held rigidly in place by bolting the form to the gantry rail concrete foundation and to the timber rail base. Transverse steel forms 2 feet wide, approximately 32 feet long, and spaced 26-2 3 or 40 feet apart, are bolted to the longitudinal forms and braced against the rock floor of the tunnel. The space between the form and the floor is filled with a 2-inch timber bulkhead. Both transverse and longitudinal forms are constructed of 10-gage steel plate, smooth inside, supported by 2-inch angle top flanges and 2 by 3 inch stiffeners. Keyways between abutting sections of concrete, 1½ by 10 inches in transverse forms and 6 by 12 inches in longitudinal forms, are provided by grooves of these shapes in the steel plates.

Lining the Invert

The shape of the invert is procured by a device consisting primarily of two steel screeds supported on car wheels which run on the inside bottom flanges of two I beams. The beams, shaped to the invert and separated by an approximate distance of 11 feet, are connected at each end by a steel framework and supported by pairs of car wheels which run upon the upper flanges of the longitudinal forms.

Each of the screeds has a horizontal upper deck mounted on the screed plate, which itself is shaped to the radius of curvature of the finished tunnel section, which is 50 feet in diameter. The screed plate is approximately 11 feet long and 4 feet wide. On the upper deck is mounted a hand winch operating two cables, each of which is fastened through single sheaves to the framework connecting the I beams, so that by winding the winch the screed is moved upward across the invert toward the side forms.

For concreting operations the winch on the screed is unwound, allowing the two screeds to meet at the center of the tunnel. The gantry crane picks up the two buckets of concrete from the truck and transports them to the pouring site. Concrete pouring through the bucket gate, which is opened or closed manually by a large removable handwheel, is dumped on the tunnel wall side of each screed and puddled into place beneath. When the space is filled the screeds are pulled toward the tunnel walls, leaving behind them the molded shape of the invert. This process is repeated until the screeds arrive at the side forms.

To move the screeds and their track framework lengthwise of the tunnel, screw jacks installed on the axles of the wheels, which run on the side form, raise the framework slightly, allowing it to be pushed manually to its next position, or, if the distance to be moved is of great length, the gantry crane picks up the framework bodily and moves it to the desired location.

The surface of the invert is finished by men working from a movable timber platform supported just above the concrete by curved I beams placed 5 feet apart. The I beams are connected at each end by a steel framework which contains double flanged wheels running on the gantry-crane track.

After the concrete in the invert has been finished, sand is dumped on it for a depth of approximately 3 feet on the center line of the tunnel, to act as a roadway for operation of trucks.

Side-Wall Sections

In preparation for pouring the side wall and crown sections, a concrete shelf 1½ feet wide is poured along each side of the finished invert as a foundation for 90-pound rails which are placed 11½ feet from the center line of the tunnel. These rails are the track for the side-wall jumbo, an 80-foot long and 50-foot high structural steel framework weighing 385 tons, which supports the ¼-inch steel skin plate for forming the walls.

This jumbo is equipped with chutes, a traveling crane, and other mechanism for placing the concrete in designated position, and a series of screw jacks and ratchets

used for distribution of hydro-static pressure of green concrete and for the adjustment of position of the wall forms for pouring, or for moving the jumbo to a new position. Because of unequal lengths of walls on curves the jumbo is made up in five panels, three of 20 feet and two of 10 feet length. Each of these sections is equipped as a unit with supporting double-flanged wheels, rectangular chutes, and "coffin" chutes. Screw jacks and steamboat ratchets are mounted at the top of the section and bear against the rock crown to resist the upward pressure of green concrete. Other jacks are installed in the ends of the horizontal struts connecting the forms on each side of the tunnel and bear against the arch beams holding the steel form face. On curves, wooden gores are built between the steel sections.

A 5-ton bridge crane, equipped with two steel hooks and powered by a 10-horse power motor, runs on a pair of 50-pound steel rails carried on a longitudinal 10-inch H beam, which is in turn supported by the vertical struts on each panel. The bridge has a traveling speed of 300 feet per minute and the transverse traveler a hoisting speed of 100 feet and a traveling speed of 125 feet per minute.

The concrete chutes from the interior face of the jumbo to the faces of the forms are spaced from 4 to 6 feet vertically at the form face and are from 8 to 16 feet in length. Six of the chutes are of ordinary type, 12 inches deep and 30 inches average width, made of ¼-inch plate and 2-inch angles. The opening in the form face at the lower end of the chutes is closed when desired by a 12 by 24 inch steel door pushed into position, flush with the form face and bolted in place. The uppermost chute, termed the "coffin", is, in effect, a hopper 3 feet 3 inches deep at the end next the tunnel center lines, 12 inches deep at the form face, and 4 feet wide. This chute is hinged at the form face, and concrete is dumped over the top of the form by raising the loading end by means of a cable connected through sheaves to a compressed-air winch located at the base of the jumbo. This "coffin" is made and operated in the manner designated to permit pouring the top 4 feet of wall, which otherwise could not be poured by gravity on account of its proximity to the roof of the tunnel.

Pouring the Concrete

Pouring operations consist of lifting the 2-cubic-yard bucket from the truck which has been driven to the section of the form designated for pouring, hoisting the bucket to the chute where the concrete is required, moving the bucket so that the hooks on the bucket gate are above a 3-inch round tripping iron bar over the chute; then by lowering the bucket slightly the tripping bar opens the bucket gate, pouring the concrete into the chute. When emptied the bucket is disengaged from the bar, lowered to the truck, and the other bucket is lifted, moved to the opposite side of the tunnel, and poured in a similar manner. An inspector and five to seven laborers are behind each form to puddle the concrete into place. A timber bulkhead, framed to provide a 1½ by 10 inch keyway similar to that in the invert concrete, is placed at the center of one-third point of the 80-foot length of forms, and each of these 40 or 26-2/3 foot sections is poured to the top of the form before the adjacent section is started. As the top part of the section is completed, carpenters remove the lower part of the bulkhead, continuing this removal as concrete rises in the section. Obviously, concreting is started at the lower level of chutes, and the doors at the ends of these are closed before pouring is started through the chutes above. A longitudinal keyway, approximately 2 by 10 inches, is formed or cut in the top of the side-wall concrete, against which the crown concrete will abut.

At present 34 hours are required for pouring an 80-foot section of wall on each side of the tunnel. After the 80-foot section has been poured the forms are required to remain in place for 12 hours. When this period has elapsed the timber bulkhead, erected at that end of the form which does not abut on the previously poured wall sections, is removed, the jacks and ratchets are loosened, and the form moved to a new position. Moving the jumbo is accomplished by means of a block and tackle attached to the rails ahead and rigged to air winches installed on the jumbo

at its base. Each 80-foot section of side wall requires approximately 60 hours per cycle.

Crown Section

A structural steel jumbo is used for pouring concrete in the crown section of the diversion tunnels. Essential parts of this jumbo are a concrete gun carriage, pipe carriage, traveler, and arch-form support. All these parts are supported on flanged wheels traveling on the 90-pound steel rails laid for the side-wall jumbo.

The gun carriage, approximately 45 feet long and 47 feet high, is equipped with a 2-drum electric hoist and two pneumatic concrete guns, with their receiving hoppers and concrete conveyers of 8-inch wrought iron and rubber hose. A 25-horsepower motor is used to move the carriage on its track. Its maximum speed is 100 feet per minute in a forward direction, or 20 feet per minute in reverse. The hoist for raising the buckets of concrete is powered by a 50-horsepower motor and has a lifting speed of 300 feet per minute.

The pipe carriage and traveler serve to support the 8-inch pipe through which the concrete is forced into the space above the crown forms. The pipe carriage in pouring position is connected to the gun jumbo, while the traveler may be moved to a position between the pipe carriage and the arch-form jumbo to support the conveyor pipe.

The arch form jumbo is made up in 10-foot and 20-foot panels, each panel of which is built of structural steel and equipped with jacks to place the face of the form in correct position for pouring, or to lower the form face away from the finished concrete. Trusses at 7-foot 4-inch maximum intervals, having lower chords 33 feet 4 inches long, support the center 88° of the crown section. The ¼ inch form face and its supporting beams for the lower 11° on each side of the center is connected at one end to the truss and supported at its opposite and exterior end by screw jacks bearing on the framework of the jumbo. Bulkheads are placed to secure transverse construction joints at 40 feet or 26-2 3 feet, in manner similar to those for the invert and side-wall sections.

For pouring, the electric hoist installed on the gun carriage lifts the 2-yard buckets from the track and dumps them into the gun hopper. The gun, by air pressure, forces the concrete through the 8-inch pipe to the center of the arch form. From here it flows to its final position through a 90° elbow and contination of the conveyor pipe, or by a chute and baffle arrangement running down the arch form. Pouring is started at the end of the form farthest removed from the gun, and the conveyor pipe and its appurtenant placing device are pulled lengthwise on the forms as concreting progresses.

All concrete in the tunnels is sprinkled as soon as the forms are removed and is kept continuously wet for 14 days thereafter. Pipes with jet sprays are installed along the walls and a film of water is permitted to run uninterrupted over the concrete surface. This water is pumped from sumps dug near the ends of the tunnel portals, the water being comparatively clear, as the silt is removed by the filtering action of the loose excavated material.

The lining of diversion tunnels constitutes a prominent part of the concrete-pouring program for Hoover Dam and serves to give an impression of the magnitude of the work and the efficient methods the contractor is using to gain the desired results. Lining the inclined spillway tunnels, the spillway open cuts, the pressure tunnels, penstocks, and pouring concrete for the intake towers and the main structure, a 727-foot dam and its attendant power plant will present special problems, each of which will be solved in different manner.

The program of pouring concrete for Hoover Dam has started. When it is completed a concrete structure will be flung across the channel of the Colorado River, and the undertaking, described by President Hoover—"Here man builds his vision into stone, that generations to come may be blessed" [1]—will have been achieved.

[1]Inscription by President Hoover on the Washington Memorial Monument, erected on a pinnacle overlooking Hoover Dam site.

AIR-CONDITIONING RIGHT UP TO THE MINUTE

by

H. L. WARREN, Heating Engineer

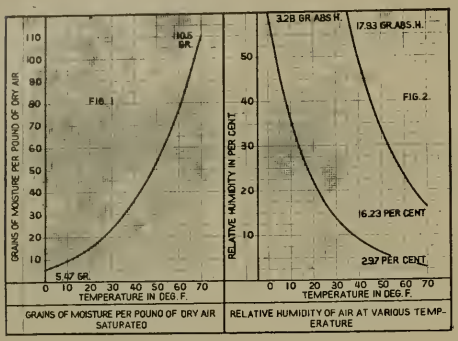
AIR conditioning is the art of maintaining desired atmospheric conditions in an enclosure. In present practice, temperature, humidity, air movement, and air purity with regard to dusts, bacteria, and odors are the individual items controlled. This treatment is concerned with the apparatus to perform these functions, as incorporated in gas heating appliances as necessary accessories. Temperature and humidity control are the primary fields of interest.

As the climatic conditions experienced in summer and winter are diametrically opposed, it is evident that the air conditioning problems created by these two seasons must basically differ. This being the case, the general subject of air conditioning logically divides itself into two subdivisions, namely, winter air conditioning and summer air conditioning. These may be further subdivided as to the purpose for which the air is conditioned, but the present treatment will be confined principally to air conditioning for human health and comfort.

Heat is generated in the body by the combustion of food. The amount of heat so generated by blood metabolism depends somewhat upon the dictates of comfort, but principally upon the degree of physical activity. As man is a constant body temperature mammal, this heat must be dissipated by radiation, convection, and evaporation of perspiration, at the same rate that it is being generated. Within rather narrow limits the body may prevent excessive heat loss by the constriction of peripheral circulation, thus creating an increased thickness of insulation in the form of body tissue. However, in order to create a comfortable condition in winter, the temperature of the air surrounding the body must be raised to a point that little or no action of the heat regulating organism of the body is required.

As air is heated, its ability to hold moisture increases with the result that its relative humidity decreases. Fig. 1 shows the quantity of water vapor in one pound of dry air at various temperatures, when it is saturated with moisture. The curve shows that one pound of air at 0 deg. F. will hold only 5.47 gr. of moisture, while at 70 deg. F., one pound of dry air will hold 110.5 gr. of moisture. Since the ability of air to hold moisture increases with its temperature, it is evident that when air with a given moisture content is heated, it becomes more dry, or thirsty for moisture. Let us assume that the outside temperature is 0 deg. F. and the relative humidity is 60 per cent. Referring to Curve A. Fig. 2,

we see that as this air is heated, its relative humidity progressively decreases and at the ordinary room temperature of 70 deg. F.,



FIGURES I AND II

the relative humidity is only 2.97 per cent. Curve B shows the dehumidification effect of heating 35 deg. F. and 60 per cent saturated air to 70 deg. F. Comparison of Curves A and B indicates that generally, the colder the weather experienced, the more dry will be the air condition in an artificially heated structure.

The most serious physiological effect of dry air is the drying of the delicate mucous membrane of the upper respiratory tract. When these delicate tissues become dry, they no longer function normally with the result that resistance to resiratory diseases is materially lowered. Other physiological

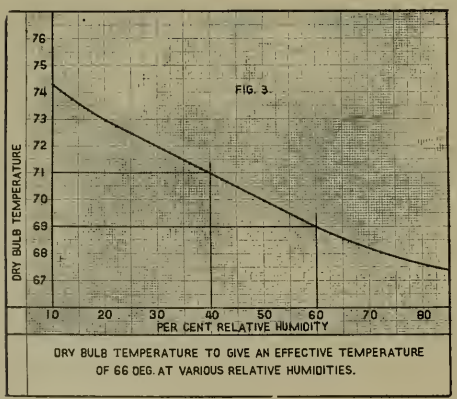


FIGURE III

effects are rough, or cracked skin, and dull and brittle hair. Very dry air also has a deleterious effect upon furniture and furnishings. By absorbing the moisture from wood and glue it causes table-tops and panels to crack, joints, legs and rungs to fall apart, and the varnished surfaces to check and chip. It causes the nap on rugs to become brittle and wear off prematurely. Paintings parch and peal.

At temperatures above 46 deg. F., humidity also makes every dry-bulb temperature condition feel warmer. Dry air at relatively high temperature may feel cooler than more humid air of considerably lower temperature. Fig. 3 shows the dry-bulb temperatures at various relative humidities required to produce a thermo equivalent condition of 66 deg. effective temperature. The curve shows that if the relative humidity is increased from 10 per cent to 50 per cent, the temperature may be reduced from 74.3 deg. F. to 70 deg. F. without decreasing the feeling of warmth.

Although heat is required to evaporate water for artificial humidification, the decrease in building heat losses resulting from carrying lower room temperatures effects a considerable net saving in fuel. As humidifiers reduce fuel consumption as well as create more healthful and more desirable air conditions, they may be advantageously applied to any heating system.

A humidifier consisting of a small gas fired warm air furnace equipped with spray nozzles, has been designed and used effectively on the East Coast. The heating element of the furnace is constructed of chrome nickel steel to resist corrosion. Spray nozzles connected to the city water supply spray water into the hottest portion of the furnace where it is evaporated. This humidifier is placed in the basement and connected to the first floor by means of only one or two warm air leader pipes and of course the necessary cold air return pipes. The warm humid air produced by the humidifier is delivered to the rooms in which the registers are located ,where it rapidly diffuses throughout the building. These humidifiers may be effectively installed in small buildings.

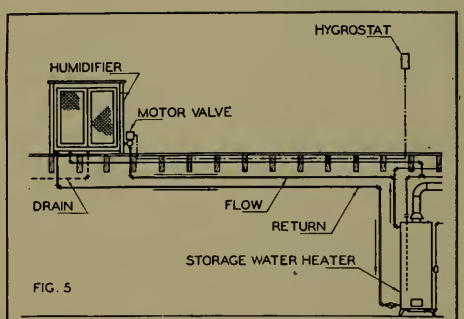
Another possibility for use under similar circumstances, is that of connecting a radiator type humidifier to a gas-fired storage water heater. The radiator humidifier is placed centrally in a residence or other similar small structure, care being taken not to place it adjacent to cold exposed surfaces, such as windows or exterior walls, which would cause the moisture evaporated by the humidifier to condense upon it and create a nuisance. The radiator or heating element of the humidifier is connected with a flow and return pipe to a storage water heater in the same manner that this appliance would be connected in an enclosed two pipe gravity hot water heating system. The radiator element is heated by gravity circulation of hot water supplied by the water heater. Water for humidification is supplied by a branch from the city water house line. This water flows over the hot radiator sections which heats it and causes it to vaporize. Any surplus water drains to the sewer. Control of the relative humidity of the air in the structure in which the humidifier is located may be accomplished by a hydrostat operating a motor valve placed either on the hot water circulating line or upon the cold water supply line.

Humidifying devices consisting of water pans placed in warm air furnace casings have been used for many years. However, the University of Illinois Bulletin No. 48 states that none of the various types which they tested proved adequate to evaporate sufficient water to maintain 40 per cent relative humidity in the Research Residence, except only in moderately cold weather. Similar tests on water pans incorporated in radiator shields and formerly popular for use in steam and hot water heating systems proved that these devices were as inadequate as the warm air furnace water pans.

The latest developments in winter humidification devices for use in residences, are the radiator humidifier previously described and the air washer and blower combination type humidifier. The former is used where steam or hot water heating systems are installed and the latter where warm air furnace heating systems are installed. Air washers have been used in large ventilating installations to provide artificial humidification for many years. However, it has only been recently that very small air washers suitable for use in residences and very small buildings have been developed.

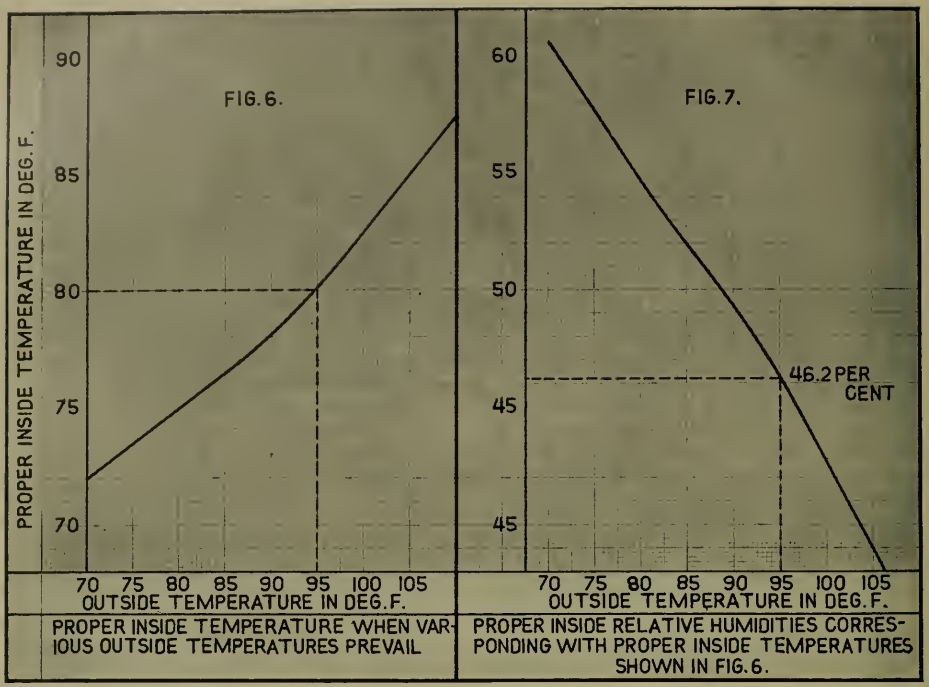
In winter, when one enters a heated structure some of the clothing is removed to prevent overheating and conversely, on leaving a heated structure additional clothing is put on to prevent chill. In other words, the amount of insulation covering the body is varied to compensate for the change in temperature of the air surrounding it. Except for the upper respiratory tract which is not protected by clothing, this offers a satisfactory and sufficiently flexible means of compensating for the rapid and extreme changes in temperature experienced on entering or leaving artificially heated structures in winter.

As a minimum of clothing is required for comfort in a conditioned space in summer, it is evident that a change in weight of clothing cannot be used to compensate for the rapid change in temperature experienced on entering or leaving a conditioned building. Therefore, the heat regulating mechanisms of the body alone must compensate for this sudden change. If the change in temperature is considerable, the human body will require as much as two hours to adjust itself to the new condition. Except in buildings where the occupants do not enter or leave when the outside temperature is considerably above the summer optimum temperature for comfort, the most



DIAGRAMATIC SKETCH OF HOT WATER PIPING AND HUMIDITY CONTROL FOR RADIATOR HUMIDIFIER AND STORAGE WATER HEATER.

FIGURE V



FIGURES VI AND VII

satisfactory inside temperature is a compromise between the optimum summer temperature and the prevailing outside temperature. In other words, optimum comfort after acclimatization is partially sacrificed so as to prevent harmful shock immediately following entrance into or exit from a conditioned space. In winter it is proper to maintain the interior of a structure at a constant optimum condition irrespective of the prevailing outside condition; however, the proper inside condition in summer is a variable changing with changes in the outside condition. Proper inside temperatures for corresponding outside temperatures are shown by the curve in Fig. 6.

As air is cooled, its relative humidity increases. Since an increase in relative humidity makes any dry bulb temperature feel warmer, it is evident that the cooling effect on the human body resulting only from lowering the dry bulb temperature is less than might be expected. This counter cooling effect which results when air is cooled necessitates relatively large reductions in dry bulb temperature in order to obtain satisfactory reductions in effective temperature, with the result that a damp humid condition conducive to shock and chill is created. It is therefore evident that dehumidification as well as cooling is required in summer air conditioning.

Dehumidification is a very important means of cooling because its cooling effect depends upon the emission of perspiration by the human body itself. When emissions of perspiration cease, the cooling effect of reasonably dry air also ceases, and when emissions of perspiration take place, the cooling effect is somewhat in proportion to the flow. Thus, dehumidification allows one to personally regulate their evaporative heat loss which should be a considerable portion of the total heat loss, in summer. By this means conditions comfortable to both warm blooded people and people less

warm blooded may be created. Proper relative humidities are shown by the curve in Fig. 17.

Dehumidification may be accomplished in several ways. The method most commonly used in the past being that of passing air through cold water sprays. These sprays cool the air below its dewpoint temperature with the result that a portion of its moisture content is condensed out. This cold air having a lower absolute humidity is then reheated by mixing it with some warm air, by heating it directly with steam or hot water coils, or by a combination of both. More recently means for accomplishing dehumidification separately from cooling have been developed.

Silica gel is a hard, glassy material with the appearance of clear quartz sand, made by treating sodium silicate with acid. Its chemical analysis is exactly the same as sand-silicon dioxide, but unlike sand, is highly porous. These pores are so small that they cannot be seen, but it is certain that they exist due to the way the gel acts. For example, a quantity of Silica Gel placed above water in a closed vessel will absorb, or take up, water vapor to the extent of 40 per cent of its own weight, and the "gel" will appear perfectly dry and will not have increased in volume. If the "gel" is brought in contact with sufficiently hot air, this water vapor will be reabsorbed by the hot air, and the gel will be rendered capable of absorbing a like quantity of moisture again. This cycle can go on indefinitely without impairing the efficiency of the Silica Gel.

With the assistance of the Industrial Research Committee of the American Gas Association, Silica Gel dehumidification equipment for summer air conditioning has been developed. The cycle of operation is shown in Fig. 8. Outside air is drawn through beds of Silica Gel placed in trays. Assuming that the temperature of the outside air entering the gel beds at A is 90 deg. F., the temperature of the dried air emitted from the beds at B will be at a considerably higher temperature, say 125 deg. F. This hot bone dry air and the warm moist air from the house is mixed at the suction of the fan C. The mixture is cooled

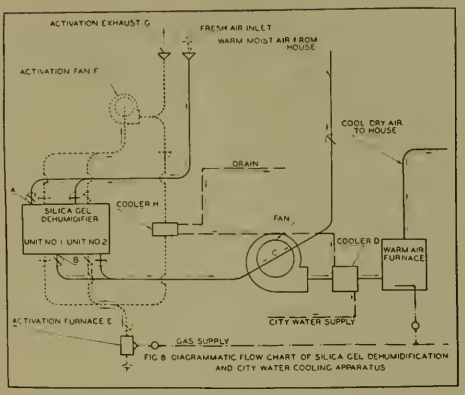


FIG 8 DIAGRAMMATIC FLOW CHART OF SILICA GEL DEHUMIDIFICATION AND CITY WATER COOLING APPARATUS

FIGURE VIII

in the cooler D and then delivered to the space being conditioned. The coolers used in the eastern test installations are coils supplied with cold water from the city supply.

While the dehumidification cycle is taking place in Unit No. 1, Unit No. 2 is being reactivated. Air from outside is drawn through a gas flame in furnace E by the reactivating fan F. The mixture of air and products of combustion leaves the furnace at a temperature of 300 deg. F., and enters the gel beds. This hot air causes the gel to give up its moisture to it. The absorption of moisture reduces the temperature of the drying air, so that when it is exhausted outside at G, its temperature is only 125 to

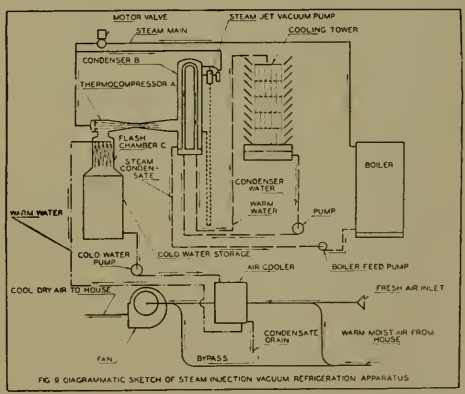


FIG 9 DIAGRAMMATIC SKETCH OF STEAM INJECTION VACUUM REFRIGERATION APPARATUS

FIGURE IV

150 deg. F.. When the gel has been thoroughly dried the furnace burner is turned off and dampers change the air flow, so that air is circulated from the beds through cooler H and back to the gel bed over and over again. The water discharged from cooler D supplies cooler H. When Unit No. 1 becomes nearly saturated with water vapor, Unit No. 2 is put in service, and Unit No. 1 is reactivated.

Silica Gel does not extract any heat from the air; it merely extracts moisture from it and transfers the latent heat of the moisture removed to the resulting dry air. This transfer of heat energy causes the tempera-

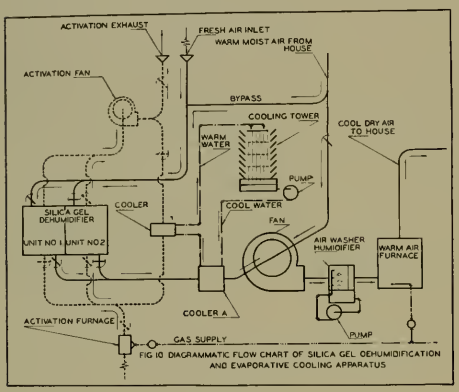


FIGURE X

ture of the dry air to rise considerably, although its total heat remains identical to the total heat of the original untreated relatively cool moist air. However, due to its relatively high temperature, it is easy to very cheaply extract this heat and reduce its temperature to a point at least as low as the original untreated moist air.

The silica gel air conditioning installations made in the East use city water in the cooling coils to remove the latent heat emitted by the extracted moisture and to cool the air to the desired temperature. A cheap supply of sufficiently cool water is essential to make such a procedure practical. The city water supply of the localities on the Pacific Coast that have warm summer climates and hence a real need for summer air conditioning, is neither sufficiently cheap nor sufficiently cold to make possible the use of apparatus of a similar type here.

The type of apparatus that will probably prove more suitable for Pacific Coast conditions is a ramification of the Silica Gel apparatus, such as is shown in Fig. 10. The two dehydration units, the reactivating apparatus and the cycle of operations is the same, the major difference being the means of cooling the air. The hot bone dry air from the dehumidifier is cooled to approximately the temperature of the untreated moist air by passing it through the cooler A. This cooler consists of pipe coils with extended surfaces. These coils extract the latent heat liberated by the extracted moisture, so that although the temperaure may not be less than the original moist air, its total heat has been greatly reduced. Due to the fact that the dry air leaves the dehumidifier at a relatively high temperature, and that it is not essential to cool it below the prevailing outside temperature, water circulated over a cooling tower may be used in the cooling coils. This offers a very inexpensive means from an operating cost standpoint of dissipating the latent heat of the extracted moisture. The cost of a small amount of power to pump the water through the coils and over the tower, and the cost of a small amount of make up water to replace that evaporated in the tower are the only operating costs entailed. To still further cool the air, it is passed through an air washer type humidifier. The air being very dry readily absorbs moisture, and as the latent heat of evaporation is taken from the air, its temperature is reduced. The amount of cooling being proportional to the amount of moisture absorbed. In this way, the Silica Gel apparatus may be made to cool as well as dehumidify the air in a conditioned space.

Disregarding the small amount of auxiliary power required to operate the cooling water pump and the activating fan, the operating efficiency of the Silica Gel apparatus is approximately 67 per cent. This relatively high operating efficiency, coupled with the relatively low cost of gas fuel, insures low operating costs.

« « « « With the Architects » » » »

PROVISIONAL CERTIFICATES GRANTED

At the regular meeting of the California State Board of Architectural Examiners, Nothern District, the following were granted provisional certificates to practice architecture in the State of California:

Lloyd Ashley Rasmussen, 3512 Geary Street, San Francisco.

Theodore Gottfried Ruegg, 1515 Tyler Street, Berkeley.

Edward R. French, Jr., Public Works Office, Mare Island, Vallejo.

CONCRETE OFFICE BUILDING

Plans are being prepared in the office of Martin J. Rist, Phelan Building, San Francisco, for a tour story and basement Class B store and office building to be erected on the northwest corner of Columbus Avenue and Green Street, San Francisco, for J. Capurro, 874 Green Street, San Francisco. The cost is estimated at $50,000. Mr. Rist has also made preliminary plans for a community hospital in Watsonville to cost $165,000.

CHURCH GROUP

Milton W. Morrison, architect, 601-42nd Avenue, San Francisco, is completing plans for the first unit of a religious group of buildings in San Francisco. Only the Sunday school unit will be built at the present time. This will consist of an auditorium, guild hall and clubrooms. The church will be built later on. All of the buildings are being designed in the Mediterranean style of architecture.

MUNICIPAL PROJECTS

Several large building projects for the City and County of San Francisco, are expected to be underway shortly, bonds for the work having been sold. The improvements will include a psychopathic ward building and a cancer institute at the City and County Hospital, the two structures to cost $700,000; also, a new county jail for which plans are being completed and for which $700,000 is available.

OAKLAND RESIDENCE

Henry H. Gutterson has completed plans for a large residence on Stonewall Road, Oakland, for F. B. Henderson, Jr., 2741 Garber Street, Berkeley. The house will cost in the neighborhood of $16,000.

SUNNYVALE AIR BASE

The Dinwiddie Construction Company of San Francisco has been awarded a contract by the Federal government to complete the hangar at Sunnyvale, together with the erection of a gasoline and helium pump house, on a bid of $222,600. The contract involves more than 280,000 square feet of concrete work.

GRACE CATHEDRAL UNIT

Construction was started during the current month on another unit of Grace Cathedral at California and Mason Streets, San Francisco, from plans by Lewis P. Hobart, architect of San Francisco. The structural engineer is T. Ronneberg and the contractors, the Dinwiddie Construction Company. The estimated cost is $100,000.

W. H. WEEKS BUSY

New work in the office of W. H. Weeks and associates, 525 Market Street, San Francisco, includes a thirteen story Medico-Dental building at Grand Avenue and Harrison Street, Oakland, estimated to cost $250,000, a market building in Oakland and a new heating plant for the Science Building of the Santa Rosa Junior High School.

SACRAMENTO GARAGE

Plans have been completed and construction bids have been taken for a one story brick garage to be built on J Street, Sacramento, for G. Dallosta. Charles F. Dean is the architect. Mr. Dean is also the architect of a Spanish home to be built in Oroville for A. J. Milns.

TWO CONTRACTS AWARDED

Messrs. Dragon and Schmidts of Berkeley, have awarded two construction contracts during the past month. One is for a one story brick veneer grammar school building at Ben Lomand and the other a two story Spanish style residence in San Anselmo for J. Angeli.

HAROLD STONER BUSY

New work in the office of Harold D. Stoner, 810 Ulloa Street, San Francisco, includes a $12,000 brick veneer English residence in Sherwood Forrest, San Francisco, for J. B. Biddle, and a Spanish dwelling in Edgewood Drive, San Mateo, for Charles McIntyre.

BAY BRIDGE ASSURED

"Bridge the Bay" seems destined soon to be a reality. The Federal government will loan $62,000,000 to finance the project, the remaining $8,000,000 required to meet the engineer's estimate, to be appropriated by the California State Highway Commission. The building of the longest bridge in the world should bring good times to the San Francisco Bay District, in fact it should benefit the entire Pacific Coast.

Attached to the agreement to buy the bonds is a condition that California, through its Highway Commission, shall not only supply the additional $8,000,000 but shall enter into a contract to maintain and operate the bridge throughout the life of the bonds so that the gross revenue of the property may be devoted to payment of interest and retirement of the bonds.

The bonds will be purchased from time to time as funds are needed for construction. The project is the largest self liquidating construction that Uncle Sam yet has agreed to finance. The bridge will be 4½ miles long, double deck, with six high speed lanes on one deck and three slow lanes on the other. Space also will be provided for two interurban tracks or two extra truck lanes.

Should it be decided later to provide interurban facilities, the bridge officials estimate that two tracks, equipment and appurtenances can be provided at an expenditure of $10,000,000.

This would be financed by a toll of 1 per cent per passenger or a total one-way fare of 21 cents and with available automobile traffic it was estimated that the bonds can be redeemed in twenty-five years.

Work is expected to be started on the west bay superstructure within the next three months. This portion of the bridge, to cost $16,600,000, can be advertised, it was said, within sixty days. The east bay superstructure, to cost $8,900,000, will require ninety days.

Engineers estimate foundations for the bridge will cost $15,240,000. Bids for this will be advertised as soon as the State Legislature acts in regard to the contingencies specified by the Reconstruction Corporation.

The bridge bond authorization is the largest yet made by the Corporation for a self-liquidating project. The next in size is the agreement entered into to purchase $40,000,000 of bonds of the Southern California Water District in order to get work started on the $235,000,000 project bringing Colorado river water to the Los Angeles area.

THEATER ALTERATIONS

Arthur O. Johnson, architect, Sir Francis Drake Hotel, San Francisco, has prepared plans for alterations to the theater on Broadway, west of Grant Avenue, San Francisco, for B. Huth.

ARCHITECTS DISCUSS MURALS

Mural painting was the subject for discussion at the regular monthly meeting of the Southern California Chapter, American Institute of Architects, September 13.

Dean Cornwell, of New York City, who is doing the murals for the Los Angeles Public Library, described some of the problems an artist has to contend with in mural work and gave an explanation of the assignment he is working on at the present time.

Julian E. Garnsey and Lucille Lloyd spoke on the subject of murals, the former giving an interesting account of Mr. Cornwell's development of the Los Angeles library problem.

Samuel Armstrong, who did the mural work for the new Edward L. Doheny, Junior, Memorial Library at the University of Southern California, spoke briefly.

Doctor Eugene Gustav Steinhof, director of the National School of Decorative Art at Vienna, and a well known sculptor, architect and educator, gave a short talk.

The speakers were introduced by Carleton M. Winslow and Samuel E. Lunden. Sumner M. Spaulding, vice-president of the Chapter, presided.

SEATTLE ARCHITECTS MEET

Political speeches dominated the opening fall meeting of the Washington State Chapter, A.I.A., September 8. The prize effort was delivered by Arthur L. Loveless, who told how the "Old Corner" could be turned and everybody made happy and prosperous again.

Committees soon will have announcements ready covering the year's activities under the direction of President J. Lister Holmes. At the meeting on October 6 Kenneth Anderson, senior in architecture at the University of Washington, related some of his experiences and observations while in Europe.

ARCHITECT EXHIBITS WORK

Edwin J. Ivey, architect, of Seattle, recently held an exhibit of his work on the ground floor of the Northern Life Tower. Photographs of completed work included the new Seattle Children's Home on Queen Anne Hill, and the remodeled Shorrock residence. Sketches for prospective retainers included a $75,000 English Tudor residence at American Lake, a Norman style mansion at Yarrow on the east side of Lake Washington, and a French Mansard house at Laurelhurst.

RESIDENCE WORK

John E. Dinwiddie, architect, 2816 Prince Street, Berkeley, is at work on plans for a group of dwellings in St. Francis Wood, San Francisco, for A. J. Wilbie. The houses will cost from $5500 to $6500 each.

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BOOK REVIEWS

By Edgar N. Kierulff

A METHOD OF PROCEDURE AND CHECKING SCHEDULE FOR PLANNING SCHOOL BUILDINGS AND THEIR EQUIPMENT, by John J. Donovan, A.I.A. Published by The Bruce Publishing Co., New York. Price $6.50.

We have just received from the Bruce Publishing Company, Milwaukee, a copy of Mr. Donovan's new book, "A Method of Procedure and Checking Schedule for Planning School Buildings" and as we glance through the pages are amazed with the volume of valuable information contained in this book and also with the tremendous amount of research work necessary to produce it.

As the preface states, this book is intended to enable the architect, the superintendent of schools or the educational planner, singly or jointly to first of all properly and adequately state the problem and the purpose of the school, then to enable the superintendent of schools to check the preliminary drawings with the architect or by himself, against the statement of the problem; then to check once more the working drawings and specifications against both the statement of the problem and the preliminary drawings. Also, the book will be helpful to the clerk of the works or the inspector on the building to work with the drawings and establish heights and check dimensions of important standard features of the school building such as heights of chalk rails, hand rails, drinking fountains for the different grades, toilet fixtures, etc.

In addition, the book undoubtedly will be used as a record book for each building for the records and statistical data pertaining to the building and personnel connected with the project is so orderly arranged and so complete in its outline that the book will save both architect and school official a great deal of time during the construction of the work and afterwards as well as it provides a record form of the job, the personnel and dates which information has been very much needed in the past.

The book will serve as a manual for the drafting room. It will enable the draftsman to work with intelligence, as the book delves deeply into the whys and wherefores and gives concrete information as to equipment, size of rooms, materials to be used and many such similar suggestions. The chapter on the Auditorium is an excellent example of the completeness of the book. There the author deals in simple language and sets forth understandable statements as to the methods to obtain proper sight lines for the seating, the method of forming the saucer-like shape orchestra floor and the equipment for the stage and projector booth. It is very noticeable that the author has constantly in mind the values of good acoustical treatment not only for the auditorium but also for other parts of the school.

Its preparation is considerably different to that of the author's previous book, "School Architecture" published by MacMillan, which will always be a valuable book as it was written, setting forth as it does the fundamental principles pertaining to educational methods and systems of the different types of schools, then the building and equipment described and shown to fit the several educational systems. That is true also of this book, only it is done in a different and more concise manner. The several departments of the school, only a few of which will be mentioned here, such as the Music Department, Art Department, Home Economics, Commercial, Science, Cafeteria, Physical Education—are minutely outlined with suggestions and valuable data.

This book will enable the architect to understand his school problem better; it will be a hand book for the superintendent of schools and it will be a valuable help to the heads of the several departments of the different types of schools. It is a valuable contribution to architecture and to education and undoubtedly will receive a hearty welcome.

THE CHINA ARCHITECTS AND BUILDERS COMPENDUM, Edited by J. T. W. Brooke, A.R.I.B.A., and R. W. Davis. Eighth issue. Published by North-China Daily News and Herold, Ltd., Shanghai, China. No price given.

Like its predecessors, this compendum is well arranged and printed and contains vital information to the architect in the Orient or those who contemplate establishing a practice in the North is to be appropriated by the California State Hightones. The brochure contains detailed information regarding the latest addition to building materials.

THE DESIGN OF LETTERING, by Egon Weiss. Published by The Pencil Points Press, Inc., New York. Price $5.00.

There have been several books on lettering that have passed through the reviewer's hands, each

possessing merit in some particular, but Mr. Weiss' book is one of the best.

It is artistically arranged and beautifully printed and bound. The subject matter is well thought out and the illustrations are admirable. There is a short historical outline of the art of lettering, followed by chapters on Spacing, Fundamentals of Lettering, then in order follow the various alphabets, a chapter on Considerations of Design and one on Lettering in Materials; also a short chapter on Color and Drawing for Reproduction.

Architects and architectural students should find this an invaluable adjunct to their libraries and a constant source of pleasure in the mere possession of such a volume.

URBAN LAND USES (An Aid to Scientific Zoning Practice). Volume IV of the Harvard City Planning Studios, by Harland Bartholomew. Published by the Harvard University Press, Cambridge, Mass. Price $3.50.

As stated above, this volume constitutes the fourth in this very fine and exhaustive series of studies on city planning and its manifold ramifications. The reviewer must confess to so limited a knowledge of the technicalities of zoning and city planning as renders him unable to say that the series, or this book in particular, is the best of its kind, but a due consideration of the source of the studies leads one to believe that it is among the best. The book is well illustrated and contains a series of charts and tabulations of interest. City planning commissions and architects should be primarily interested.

BUILDERS EXCHANGE MEETING

Ralph E. Homann of Los Angeles was elected president of the California State Builders Exchange at the sixth annual convention at Stockton September 30 and October 1. Other officers chosen are: first vice-president, P. M. Sanford, Richmond; second vice-president, Chas. W. Pettifer, Long Beach; third vice-president, L. S. Peletz, Stockton; fourth vice-president, H. L. Sweeney, Santa Barbara; secretary, Frederic Sanford, Santa Ana; treasurer, C. M. Gilbert, Santa Ana.

Members of the new board of directors are as follows: H. C. Anderson, Berkeley; W. H. George, San Francisco; C. M. Gilbert, Santa Ana; G. A. Graham, Bakersfield; Ralph E. Homann, Los Angeles; Wm. T. Loesch, Pasadena; C. E. McMullin, Fresno; L. S. Peletz, Stockton; Chas. W. Pettifer, Long Beach; P. M. Sanford, Richmond; H. W. Sweeney, Santa Barbara.

It was decided to hold the next semi-annual convention in Los Angeles in March, 1933. The next quarterly meeting of the board of directors is scheduled for December, 1932, at Fresno, the date to be announced later.

PERSONAL

BAKER, VOGEL and ROUSH, Seattle, have moved their office from 321 to 422 Smith Tower, Seattle. They have plans under way for a fraternity house at 18th Avenue N. E. and E 50th Street.

ALBAN A. SHAY, of Seattle, has moved his office to 523 Skinner Building. He formerly was located on the third floor.

VAS STIMSON, member of the Seattle architectural firm of Stimson and McDonald, was an honorary guest at the midsummer dedication of the new Masonic Temple at Port Townsend, which his firm designed.

DRAWS BRIDGE PERSPECTIVES

C. Raymond Butcher, having been commissioned by the city engineer of Spokane to make two large airplane perspective drawings of the proposed Oak-to-Ash Street bridge and the Sixth Avenue intersection, submitted two fine drawings 4′ by 6′ each, in charcoal and carbon pencil. Spokane Chamber of Commerce officials look upon the project as a needed city improvement.

COLOR WATERPROOFING

The Master Builders Company of Cleveland, Ohio, have issued a short brochure dealing with their latest product, Omicron, a colored waterproofing. It is a pure stearate liquid waterproofing in which is incorporated color in non-fading tones. The brochure contains all the detailed information regarding the latest addition to building materials.

LOS ANGELES SCHOOL BUILDING

Plans have been completed for a two story frame and concrete school building and alterations to the auditorium of the school at 1521 North Highland Avenue, Los Angeles, the architects being Messrs. March, Smith & Powell, Architects' Building, Los Angeles.

VACATIONING ABROAD

David R. Myers, associated with his father, David J. Myers, Central Building, Seattle, is spending six months in Europe studying architectural monuments at first hand. He left for England in June. Before returning in December he will visit France, Switzerland and Italy.

STORE ALTERATIONS

Alterations have been completed to a store at 508 Sutter Street, San Francisco, from plans by Messrs. Kent and Haas, Underwood Building, San Francisco. The John B. Rex Furniture Company will occupy the premises.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$16.00 per M
1 x 4 No. 1 flooring VG	65.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$46.00 per M
1¼x4 and 6 No. 2 flooring	65.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$100.00 M ft.
1 1-16x2¼" T & G Maple	127.00 M ft.
⅞x3½ sq. edge Maple	120.00 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$168 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	6.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $46.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$80 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $73 to $78 per ton cost of steel; average building, $77.00.

Steel Reinforcing—

$68.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

BETTER HOMES COMPETITION

The program for Better Homes in America Small House Competition for 1932 is out and awards will be made and announced soon after January 1, 1933. The following are the conditions governing the entries:

The competition closes December 1, 1932.

The awards are to be made to practicing architects for the best design submitted for each of three types of houses—three medals in all:

(a) One story house.
Storage space but no living accommodations may occur in roof space.

(b) Story-and-a-half house.
Living accommodations partly in a second story which is actually a "half story."

(c) Two story house.

The awards are aimed to discover and call attention to the best small houses actually constructed during the given period, and thus to stimulate interest in overcoming the faulty design and construction of the really small house. To this end the actual cube of the house, above the level of the first floor, shall not be greater than 24,000 cu. ft. except for two story houses for which a cubage of 26,000 cu. ft. is permitted. Open porches estimated at ½ cube.

Documents to be submitted include floor plans, blueprints or otherwise, showing first floor, and second floor if it has living accommodations. Two elevations. One or two photographs of exterior, preferably two. Two photographs (but not more than two) of interior may be submitted if desired; but the award is to be based upon the design of the structure, not on its furnishings; therefore, interior photographs, if submitted, should be selected with this in mind.

This award is intended as an annual award. Houses entered in the 1932 competition shall be those the construction of which was finally completed between the years 1927 and 1931 inclusive. Designs of houses which have been submitted in any given year cannot be resubmitted to the committee in later years.

Exhibits shall be shipped addressed to Better Homes in America, c/o the American Institute of Architects, 1741 New York Ave., Washington, D. C., so as to be received not later than December 1, 1932. They will be handled as carefully as possible but must be sent at the risk of the sender. If any value is placed upon them by the sender he should take such steps as he sees fit to insure against their loss.

Better Homes in America shall have the right to publish illustrations of designs awarded medals, and such other designs submitted as may be deemed desirable.

[Concluded on Page 74, Col. 2]

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FIVE BILLION FOR REPAIRS

Frederick M. Feiker, Director of the Bureau of Foreign and Domestic Commerce, promises the full cooperation of the National Committee on Reconditioning, Remodeling, and Modernizing in a nation-wide campaign to accomplish that purpose. Mr. Feiker is chairman of this committee.

It is to accelerate this movement that the National Committee on Reconditioning, Remodeling, and Modernizing is only too anxious to cooperate with every community interested in promoting repairs and improvements of commercial, home, and industrial structures for the purpose of energizing industry and relieving unemployment," he stated.

Mr. Feiker pointed out that in the neighborhood of five billion dollars worth of repairs are needed to keep existing structures in good condition. "Of this amount alone," he declared, "approximately three and a half billion would constitute wages for local workers. That means real aid for employment—plus bargain prices for the people who have the work done," he said.

The continual rise in standards for the modern home and commercial building calls for the expenditure of many more billions to bring them up to date. As an indication of how much can be done for little expense today, Mr. Feiker stated that the average repair job can be done for at least 20 per cent less than at any time in the last ten years.

In describing the purposes and functions of the National Committee, Chairman Feiker said:

"The purpose of the National Committee on Reconditioning, Remodeling, and Modernization is to accelerate the demand for men and materials by stimulating repair and improvement of commercial, residential, and industrial structures. It is concerned with the welfare of the men and women who live in buildings, work in buildings, repair buildings, invest in buildings, and produce the materials for buildings.

"One road to more buying and employment is through the construction industry. One person in every ten lives by it. Of every dollar spent for repair, maintenance, and improvement, 70 cents goes to labor, turning each new worker into a customer for other goods and services. Revival of the small construction industry has always led to general up turn in business and employment.

"Wear and tear, fires and tornadoes annually create a need for five billion dollars worth of repairs and reconditioning. For approximately two years much of this has been put off.

"Meanwhile, standards for the modern commercial building and home have continued to rise. Billions of dollars must be spent to bring them up to date.

"From the building owner's point of view, there is no time so advantageous to modernize as during a business depression. Material prices are low and skilled workmen are available. This opportunity, however, is not one which leads owners to act automatically. While many have repaired and modernized, many others have not done so.

"The tendency during depression is to limit repairs and postpone improvement. It is against this tendency that a campaign of information, counsel, and constructive organization is directed. A high degree of promotional effort is necessary.

"The idea has found acceptance in more than 200 communities as an instrument for improving business and employment. Within the last 30 days, 35 communities have sought the aid of the committee.

"By helping communities to regiment the owners of homes and commercial and industrial structures, the building trades, the building material dealers, and the public services in concerted programs, the National Committee on Reconditioning, Remodeling, and Modernization seeks to energize the demand for workers and materials."

BETTER HOMES COMPETITION

[Concluded from Page 72]

grant honorable mention to designs which are deemed worthy.

In awarding honorable mention the jury will give special consideration to the suitability of the designs to the climatic conditions and local traditions of the geographical regions in which they were built.

Prize winning designs will be published, and designs winning honorable mention will also be published at the discretion of Better Homes in America. Any publication of the designs which are awarded medals or honorable mention will be copyrighted and due prominence will be given to the name and address of the designer, with the statement that the design is his private property.

STORE BUILDING

William E. Milwain, architect of Oakland, has completed plans for a one story brick store building at Walnut Creek for Louis De Martini. The Hagstrom Food Stores are the lessees.

ENGINEERS' EXAMINATION

The State Board of Registration for Civil Engineers will hold examinations at Los Angeles October 13, 14 and 15 and in San Francisco October 20, 21 and 22 for registration of civil and structural engineers.

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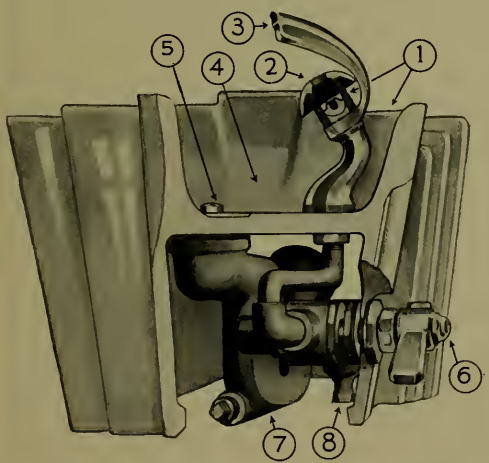

SALUTARY FEATURES

1. Bubbler orifice above rim of bowl protects fresh water supply in case bowl should flood.
2. Anti-Squirt orifice guard.
3. Orifice protecting shield.
4. Vitreous China Receptor proportioned to prevent unnecessary splashing and designed free from corners difficult to clean. Bowl furnished in 9 colors.
5. Octagonal waste strainer permits efficient drainage of water.
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CONTRACTORS RENEW LICENSES

By Col. C. W. Huntington

With the nation-wide upswing in business conditions now an established fact, it is, indeed, pleasing to report that an improvement is apparent in business of all of the professions and trades represented within the California State Department of Professional and Vocational Standards.

Public confidence having again been restored, the department is exerting every possible means to prevent operations of unscrupulous, unethical or unlicensed operatives in any of the trades or professions from again shattering confidence.

The adjustment of conditions toward a permanent return to normalcy, however, has not been without adding some new problems to the work of the various boards which comprise the department.

Cases have been brought to our attention where the end of the depression has been a signal for the unscrupulous or unethical person to again resume his nefarious operations. Precautionary measures are being taken to guard against this condition, however.

Licenses of the various boards, which expired at the close of the last fiscal year, are being renewed at a highly satisfactory rate. In the case of the Contractors' Division, I am happy to report that out of 25,000 licentiates operating at the close of the last fiscal year, approximately 20,000 or 80 per cent have obtained their 1932-33 licenses.

Although only two months of the current fiscal year have elapsed, preliminary work on budgets of the various boards for the new biennium—extending from July 1, 1933, to June 30, 1935—is now under way, and these will soon be submitted to the director of finance for his approval and inclusion in the biennial budget which is to be submitted to the Legislature in January.

Anticipating what one's revenue may be and preparing a schedule of what expenditures may be necessary almost three years hence, is far from what may be termed a simple problem. The recession during the past three years, together with the present change in conditions toward a return to normalcy makes it exceedingly difficult to anticipate what conditions will be in the last half of the next biennium—or two and a half years hence.

However, economy is the watchword of the various boards and their disbursing officers in preparing the new budgets.

With the 1933 session of the Legislature fast approaching, considerable attention is being given by various board members to proposed changes in the laws governing the respective boards, which will probably be recommended to the august lawmakers next January.

Several conferences on this subject have already been held by the various boards with your director. In the Bureau of Contractors' Registration, of which I am happy to be the head, we are also closely scanning recommendations submitted for legislative changes, with a view of strengthening the work of the bureau to the end that greater protection may be rendered the industry and the public.

That the greatest possible service be rendered the public and the professions or trades represented in the department, continues to be our chief objective. To that end, a total of 5,661 investigations were conducted by the various boards during the past month. These investigations resulted in many proceedings before your Registrar of Contractors or the various boards, and in turn resulted in the revocation or suspension of the licenses of many persons, where evidence of fraudulent or unethical operations were disclosed or evidence of infraction of the laws were introduced.

I turn now to the operations of the various units of the department, and will briefly summarize their operations. I will first discuss the Bureau of Contractors' Registration.

This bureau, which I am happy to head, has been exceedingly active during the past month, with a total of 223 complaints pending before the registrar, of which 45 were filed during the month —or at the rate of one every 18 hours.

These cases involved a total of $351,000 in new construction or alteration projects. Hence, the bureau, acting in a quasi-judicial capacity, has been able to expedite action or effect a satisfactory solution and settlement of the various complaints, and thus tended to prevent this number of cases from adding to the congestion of court calendars with its consequent delays due to legal technicalities.

Hearings were held in 37 cases, involving a total of 46 hearings for the month. While it was not found necessary to revoke any licenses, five licenses were suspended and 19 cases were dismissed with the accused contractor being severely warned to guard against future conduct of a questionable nature. In some cases, the names of these offending contractors were "flagged" and their past record will be under scrutiny in the event that other complaints are filed against them. A total of 13 cases were settled by arbitration, while 34 other cases were settled without formal charges being lodged against the erring contractor.

Court proceedings were invoked in five cases, while two other cases were still pending before the judiciary, with three convictions being obtained.

Operations of the Board of Registration for Civil Engineers were marked by a series of examinations conducted for applicants for licenses as either civil engineer or structural engineer. In

addition, the board adopted new rules governing the regulation and licensing of the structural engineer. Three investigations were conducted and 10 licenses granted.

The board also designated H. J. Brunnier as its representative at the National Council of State Boards of Engineering Examiners, which met in New York City September 29. In addition, the board amended its rules to provide for the election of a president and other officers at the first meeting in January each year.

The Boards of Architectural Examiners (northern and southern districts) conducted 40 investigations and instituted court proceedings in several cases.

The Southern Board is conducting an investigation to determine upon any changes in its rules of procedure which might operate for the benefit of the profession and expedite action by the board in its various cases. Through cooperation of the Southern California Telephone Company, the board succeeded in having the names of alleged violators of the architectural codes deleted from the new directory, which is now on the press.

TACOMA DRAFTSMEN'S CLUB

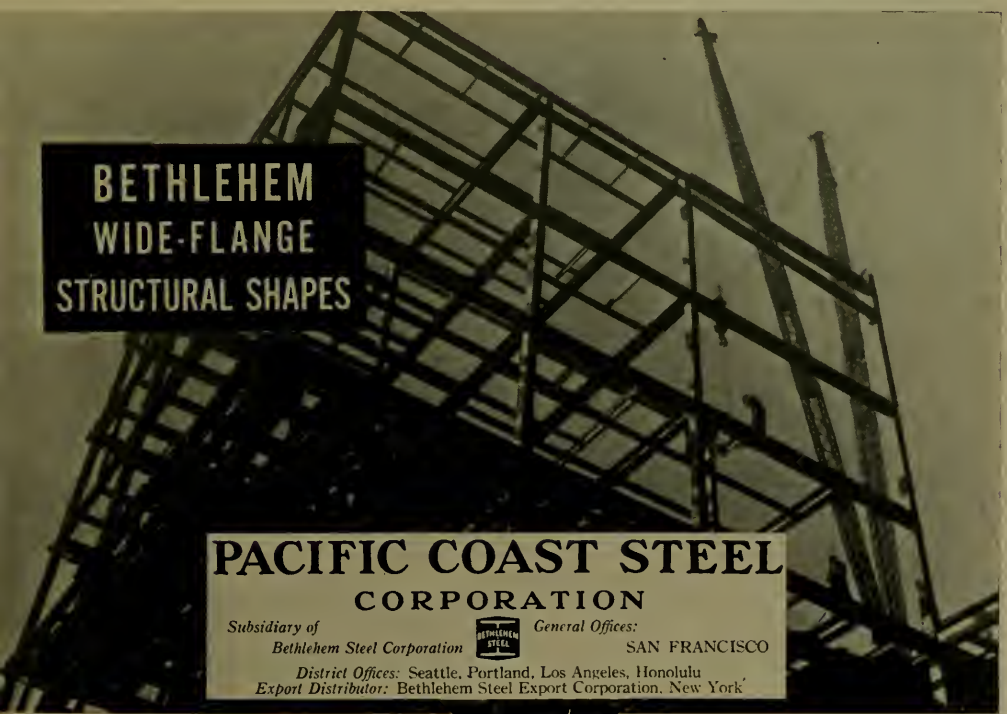
The following officers have been elected by the Tacoma Draftsmen's Club: President, Ralph Bishop of the office of Sutton, Whitney and Dugan, and Secretary-Treasurer, John Richards from the office of Heath, Gove and Bell. Meetings are held in the office of Heath, Gove and Bell twice a week.

The object of the Club is the development of the draftsman and the profession of architecture through study and companionship. The method of study is divided into (a) Design and (b) Relative Technical Subjects.

Edward Young, of the office of Roland E. Borhek, is chairman of the design section of the club. The members take design problems similar in character to those of the Beaux Arts Institute of Design. The current problem is a "Restaurant on a River." Meetings are held every Wednesday to discuss the current problems and transact other business.

FREE PUBLIC INSTRUCTION

Evening classes giving free instruction in subjects of interest to all in construction, are given at the technical department of the Humboldt evening high school, 22nd and Bartlett Streets, between Mission and Valencia, San Francisco. Classes are now forming in Building Trade Drafting and Industrial Mathematics.



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LICENSE LAW AIDS CONTRACTORS

L. F. Danforth in the *California Plasterer*

The question is frequently asked, "What benefit is the State Contractors' License Law to the general contractor?" That the law has proved a benefit to the sub-contractor and owner is an admitted fact.

Owners have been mostly benefited because the law requires the fulfillment of specifications. In hundreds of cases brought to our department, general contractors and sub-contractors have been required to make good on some violation of the specifications. The contractor may no longer abandon the contract without legal excuse; neither may he divert funds paid him for the prosecution or completion of a specific contract, or for a specified purpose in the prosecution or completion of any contract, and he may not depart from or disregard plans or specifications, without the consent of the owner. He may not violate the building code of the State or any political subdivision thereof; neither may he do any willful or fraudulent act as a contractor in consequence of which another is subsequently injured.

Since the adoption of this law, the owner for the first time has official protection. If he deals only with licensed contractors and uses ordinary precaution in having good plans and good specifications, he may expect to have a good job. So, too, the sub-contractor is reasonably protected from the diversion of funds by the general contractor. His chances of being defrauded have been reduced to a minimum, since the adoption of the Contractors' Law.

It is the general contractor who asks the question, "What is in this law for me?" It is the purpose of this article to answer in so far as space will permit, this very pertinent question.

To the well informed general contractor, this question is purely academic. For none knows better than he, that the law was enacted for the purpose of restraining the irresponsible, dishonest contractor. He knows that this class of competition can be compelled to abide by specifications, pay his sub-contractors and his material bills only through the operation of a just and justly administered law. If this object alone is attained, the law has accomplished its principal purpose. This, however, is by no means all the good that the general contractors derive from the law. To get the services of responsible sub-contractors who are willing and able to do their work to the satisfaction of the architects and owners, has been one of the chief annoyances of the general contractor, and right here comes the greatest benefit of all to him, if he will but make full use of the Contractors' Law. No longer may the sub-contractor abandon a contract without legal excuse, no longer

may he get by with a slipshod job in violation of the specifications; no longer may he leave unpaid labor or material bills for the general contractor or owner to pay, and still hope to continue in business. It has taken a great many suspensions or revocations of licenses to prove this. Slowly, but surely, however, the fact is coming home to every branch of the building industry that the California State Contractors' Law requires a higher ethical standard, and that the officers in charge of the department are determined to enforce all the provisions of the law.

Owners have learned that they may appeal to the Registrar when they are unfairly treated. Contractors, too, are using this department for settling disputes among themselves. They know they can get justice from the Registrar of Contractors, without cost. Since the law went into effect August 14, 1929, more than 1000 formal cases have been heard and adjusted in the Los Angeles office alone, while many times that number of informal cases have been adjusted, saving the parties to the complaints thousands of dollars in costly litigation.

Today the law is being observed by most contractors throughout the State; occasionally one is found operating without a license; in the Los Angeles office there have been twenty arrested and convicted for violating the law this year. It is to be hoped that these convictions will deter others from attempting to evade the law. Be that as it may, the law will be enforced and the offender is sure to be apprehended in the end.

Many of those arrested and convicted are the very type of contractors that this law was enacted to suppress. Their sole aim was to fleece the public whenever opportunity permitted. In some cases they were caught only after the unfortunate owner had been made to suffer a severe loss. Slowly but surely the Contractors' Law is closing in on these men who have been a disgrace to the contracting business. With a continued vigorous enforcement of the law, it will be but a short time until decency and fair dealing will be the rule among the contractors of California.

It was the purpose of the framers of the State Contractors' Law, to raise all branches of the contracting business to a higher, cleaner, and more ethical plane. Those who are administering the law tell us that beyond question, the law is accomplishing this purpose. Before, however, it can do all that the proponents hoped for, some few amendments will be necessary, and above all a State building code should be adopted.

Most of our municipalities have building codes that afford owners (and honest contractors) protection, but with the exception of the electrical

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work, anything goes in the county districts. Unscrupulous contractors have been putting up homes on filled ground with the result that foundations have given away within a year; further, no regard has been shown by them for decent framing or plumbing sanitation. When you realize that in the Los Angeles district a great deal of the territory "is County", that houses may be erected in this territory without benefit of inspection, that there is no law to hold the dishonest contractor from taking undue advantage of this situation, the crying need of a State building code is apparent. With the State Contractors' License Department prepared to enforce a State code, much grief and distress could be saved those who build outside our cities, and we would have another strangle hold on the fraudulent contractor.

In closing, a brief analysis of the types of contractors arrested is significant. Among those for whom warrants have been issued, we find one cement contractor, one electrician, one plumber, one excavator, one structural steel, two plasterers, six painters and nine general contractors.

While it is true that most of the general contractors arrested were small operators, a few have been important builders. Why they were trying to evade their own law, a law that means so much to the building industry, can only be answered by the conclusion that they were ignorant of the great good the Contractors' Law is doing: not alone for the general public, the material dealer and the sub-contractor, but most of all for every general contractor in the industrial field.

TRADE LITERATURE

The American Radiator Company has recently issued two brochures entitled, respectively, "The Radiator Goes Modern" and "Arco Radiator Enclosures." The first named is for consumer use and the last named, replete with data, is planned for the use of architects, builders and heating contractors.

The Kewanee Boiler Corporation has a new folder illustrative of their round steel boiler for homes and smaller buildings and to be fired either with oil or gas fuel. Specifications are included in this folder as well as measurements. A.I.A. File 30-C-1.

Young Radiator Company of Racine, Wisconsin, have sent out new catalogs covering their unit heaters and copper connection heaters, as well as cabinets and enclosures. The catalogs are well illustrated and arranged. A.I.A. File 30-D-11 and A.I.A. File 30-C-4.

PARIS ARCHITECT WINS

Jean Francois Meunier of Paris, winner of awards in several French architectural competitions and of the Stillman prize at the Ecole des Beaux Arts, has been named the Delano and Aldrich Traveling Scholar by the Committee on Education of the American Institute of Architects, it is announced by Charles Butler, chairman of the Committee.

The fellowship established by Wm. A. Delano and Chester Aldrich of New York, enables a foreign architect, sculptor, or painter, or a student in one or two of these arts, to spend a year of travel in the United States. Meunier will study American architecture and building methods.

Meunier is a graduate of the Ecole des Beaux Arts, having received during his course there first medal in construction and second medals in design. He has taken part in numerous competitions both of his own account and for other architects, and has received honorable mention in the competition for the Prix de Reconnaisance des Architects Americains, founded by former American students at the Beaux Arts in appreciation of the free education given them by France at the school.

Meunier has been chosen twice among the ten final competitors for the Prix de Rome, and he expects to compete again next spring. Among the important projects in which he has had a part are the plan of the City of Beyrouth, the Credit Foncier of Brazil, the Galeries Lafayette in Paris, the Casino at Forges les Faux, and various factories and hospitals.

The Stillman prize, established by the late James Stillman, New York banker, in recognition of the services rendered to American architecture by the Ecole des Beaux Arts, and the Chenavard prize were awarded to Meunier on a program of city planning.

The French Committee which represents the Committee on Education of the American Institute of Architects in Paris made the selection for the Delano and Aldrich fellowship award. The Committee is headed by Andre Arbvidson and includes in its membership Gustave Jaulmes, Camille Lefevre, Auguste Pelechet, and Georges Gromort.

M. Arbvidson is known to Americans as the architect of the National City Bank Building on the Champs Elysees, and M. Lefevre is architect of the Louvre. M. Pellechet, architect of the new Zurich Insurance Company Building on the Grands Boulevards in Paris, holds the Grand Medaille of the Societe Centrale in Paris.

M. Jaulmes, who in recent years has devoted himself to mural decoration, is the author of the large tapestry in Independence Hall, Philadelphia, depicting the departure of the American troops for the Great War, and of the tapestry of the

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Rivers of France in the salon of the steamship Ile de France. M. Gromort is a professor of architecture at the Ecole des Beaux Arts.

Meunier is the third winner of the Delano and Aldrich scholarship, which was first instituted as an experiment in the development of the Institute's program of international relations.

MINIATURE PUBLIC ADDRESS SYSTEM

The latest convenience for this year's political campaigners or any other speakers who address meetings where no amplifying facilities are available, comes to light in the announcement of the Western Electric Company that there is available a complete public address system so small that it fits into a suitcase and is carried around by hand. This system was designed by Bell Telephone Laboratories. The amplifier in the system has a gain of 71 decibels, enough to magnify the speaker's voice from one to many thousand times its natural loudness according to the surroundings.

The entire equipment, including the case, weighs 70 pounds. The equipment includes the amplifier, a loudspeaker, a control unit and the necessary connections. It operates from the regular alternating current electric power supply.

To make its convenience complete, the miniature public address system is arranged for use with another miniature device developed by the same engineers, the so-called lapel microphone which came into prominence during the broadcasting of the national party conventions at Chicago. When the orator arrives at his indoor or outdoor meeting, all he does is set the cast down in a good place, plug in on the electric light line, pin the tiny microphone on his lapel, step up on the platform and commence talking in his ordinary tone. The wire from the microphone gives him 30 feet in which to make dramatic strides and gestures. An assistant seated inconspicuously as far as 50 feet away can, by means of remote volume control, help the speaker punctuate his points without actually raising his voice.

The system can also be used with an electrical reproducer to amplify phonograph records of music or prepared speeches.

The case into which the equipment fits is 19¾ inches square and 10⅛ inches deep. The case contains a bracket for carrying spare vacuum tubes. A three-stage amplifier is used. Each of the first two stages employs a single vacuum tube, while the last stage uses two tubes in a push-pull circuit. The amplifier has an adequately uniform frequency characteristic between 70 and 7,000 cycles and an undistorted peak output power of 3 watts.

The power supply equipment inside the amplifier unit itself consists of a transformer, a Western Electric full wave rectifier tube and a filter

circuit. This equipment provides direct current for operation of the amplifier, the loudspeaker and the microphone. The filaments of the vacuum tubes are operated on alternating current directly from the transformer.

The loudspeaker is of a dynamic type and is mounted on a wooden baffle board in front of the carrying case. The Western Electric lapel microphone is 1½ inches in diameter and is a carbon button transmitter encased in soft rubber with a metal clip for fastening to the user's clothing. The microphone control unit consists essentially of a network through which the current for the microphone is obtained; a repeating coil which couples the microphone to the amplifier and an external or remote volume control. The volume is controlled by means of a potentiometer which is connected to the microphone control unit by a 30-foot cord.

As accessory equipment, a control cabinet is available which permits the connection of any one of five microphones to the amplifying system. This cabinet provides noiseless switching and facilities for supplying current to the microphone.

OFFICERS CHOSEN

Tacoma Architects, Incorporated, has as its object the practice of architecture with activities limited to public work. The officers are: President, Stanley T. Shaw; Vice-President, Earl N. Dugan; Secretary, Fred G. Rounds; Treasurer, George W. Bullard, and Board of Directors, Roland E. Borhek, Ernest T. Mock and A. J. Russell.

This corporation is co-operating with the Downtown Association, an organization of property owners, building managers and tenants, in the project to improve Pacific Avenue from 9th to 11th Street. Preliminary sketches have been prepared and approved. The project contemplates such remodeling of the fronts of the building as may be desired to bring a more uniform treatment of facades as to details, skylines, materials, etc. The treatment of the individual store front will vary to meet the specific requirements.

W. C. HAYS BUSY

New work in the office of W. C. Hays, Crocker First National Bank Building, San Francisco, includes remodeling a store and loft building in Oakland and a two story residence in Merced Manor, San Francisco, for F. S. Durie.

PRINTING PLANT

A two story reinforced concrete printing plant will be built on Washington Street, near the Embarcadero, San Francisco, for the Edward Barry Company. H. A. Minton is the architect and L. H. Nishkian the engineer.

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WASHINGTON ARCHITECTS INCORPORATE

Washington State Chapter holds its meeting for September, the first after the summer vacation, on the evening of Thursday, September 8. A considerable number of Tacoma members were in attendance and joined with the Seattle participants in enjoying the excellent dinner.

The meeting was called to order by President Holmes at 7:15 p. m. The minutes of the last regular meeting, held in June, were read and approved, as was also the report of the treasurer. This was followed by the reading of a letter from Mr. D. Knickerbacker Boyd of Philadelphia, giving an interesting account of ceremonies in honor of deceased architects conducted by the Philadelphia Chapter, with the idea that this custom might be more generally adopted. This was referred to the Chapter Committee on Public Information.

In conformity with a resolution passed at the above meeting, a special meeting was called by the president, September 16, for the consideration of Articles of Incorporation for the proposed Washington Architects Incorporated, which is to engage in the practice of architecture for U. S. Government work to give general relief to the architects and draftsmen throughout the state.

The meeting was called to order after luncheon by President Holmes, who stated the purpose of the meeting and presented a proposed draft of articles of incorporation, which, he stated, had been drawn with competent legal advice to fulfill the purposes intended.

The proposed draft was discussed in detail and after some amendments providing for the election of the five directors to represent the three organizations now supporting the movement, the Chapter, State Society and Tacoma Society of Architects, with a representative of the architects of Seattle and of eastern Washington, the proposed articles of incorporation were unanimously approved.

J. Lister Holmes of the Washington State Chapter, A.I.A., William J. Jones of the State Society, and Roland E. Borhek of the Tacoma Society of Architects, having been already selected by their respective organizations, A. M. Young of Seattle and Stanley A. Smith of Pullman were selected to complete the quota of directors and facilitate organization.

SPOKANE SOCIETY OF ARCHITECTS

A committee consisting of Henry Bertelsen and Claude Butcher, from the Spokane Society of Architects, together with a representative of the Hoo Hoo Club, judged drawings made by the

three high schools of the city of Spokane. Prizes were awarded each school for the best small house plans.

The anniversary of the Spokane Society was celebrated July 10 when members and their families gathered at Granite Point on Loon Lake for a swim and picnic supper. It was said that the appearance of the secretary in a bathing suit was alone worth the trip out.

The Spokane Society was represented on the State legislative ticket by Roland M. Vantyne, who filed for Representative from his district. Having failed to receive the required number of votes, however, his name will not appear on the ballot at the general election.

Noel Thompson informally presented a resume of a recent article in "Fortune" on the built-to-order house being manufactured by General Houses. It was the consensus of opinion that houses could not be marketed like electric refrigerators in the Northwest district, with any degree of success or profit.

On September 2 the meeting was addressed by A. M. Young of Schack and Young, Seattle. Mr. Young's mission was to give the Spokane group a first-hand, intimate picture of the projected plan to unite the architects of the State into a corporate body for the handling of Federal building work. The many points set forth for the plan were thoroughly discussed by the membership with Mr. Young. While many in the Spokane Society will become members by virtue of their memberships in the Chapter and State Society, the Spokane Society voted not to enter as an organization.

Subjects announced for meetings in the near future include a talk on paint by a factory representative of the Benjamin F. Moore Company, and a meeting of high school drawing teachers for the discussion of the subject of architectural drawing.

NORRIS B. ALLEN

With the passing of Norris B. Allan on September 25, the Washington State Chapter, A.I.A., mourns the loss of one of its members who helped to uphold the principles of the profession in the early days of the Chapter's existence. Forming a partnership with the late Timotheus Josenhans, Mr. Allan practiced for a number of years under the firm name of Josenhans and Allan, and later became attached to the Building Department of the City of Seattle.

OAKLAND STORE BUILDING

Plans have been prepared by J. W. Oliver of Oakland for a two story Class C store and loft building on Lakeshore Avenue for the Eureka Properties Company. The cost is estimated at $15,000.

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DISCUSS WATER CONTROL

The Los Angeles Section of the American Society of Civil Engineers resumed their monthly meetings after the summer recess, at a dinner meeting September 14, at the Engineers Club, Los Angeles. There were approximately 110 members and guests in attendance.

A. E. Burt, M. Am. Soc., C. E., construction engineer, Los Angeles County Road Department, presented a brief paper entitled, "Application of Water Control in Concrete Pavement Construction." Compression tests made from cores from concrete pavement laid in the county showed a wide variance in results. It was concluded from studies of the methods of mixing and laying, that water content of the mixture was an important factor in the cause of the varying results. In 1930 a test job was laid, consisting of seven strips 100 feet long and 10 feet wide, in which the water content was accurately controlled and varied from 6.8 gallons per sack of cement to 4 gallons per sack or almost an unworkable concrete. Ten cores from each strip were taken when 30 days old and the compressive strength ranged from an average of 3062 lbs., to 4474 lbs, per square inch. These tests demonstrated the benefit of reasonably accurate water control.

Observations and tests made of concrete where the water control is left to the judgment of the mixer operator showed a wide variance in strength in successive batches. The water control should be under the direction of the inspector or engineer in charge of the job.

Positive water control gives other intangible benefits, as it reduces controversies between contractor and engineer, reduces shrinkage, cracking and internal stresses. A concrete of uniform consistency also is more easily finished to a true surface.

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Farum, Pasadena, gave a very interesting talk on the life, works, mode of living, arts and legends of the prehistoric Indians of Arizona and New Mexico. The talk was illustrated with lantern slides showing views of the ruins of houses and villages that have been excavated by various archeological societies, the pueblos and cliff dwellings, the Casa Grande ruins, and pictures of the early arts of basket weaving, pottery making, stone implements, and ornaments recovered from the ruins.

Dates of construction of these pre-historic villages have been estimated by the examination of pieces of timbers that have been excavated from the ruins. Dr. Douglas of Arizona University at Tucson, has made a very comprehensive study of the ages of trees, from the growth and characteristics of the rings. From this information Dr. Douglas and Mr. Judd of the National Museum at Washington have compared the rings of the ancient timbers with growths of trees that extend back several thousand years. From this it has been estimated that the earliest tribes known as basket makers, built their structures some 1000 to 1500 years B. C. The Mesa ruins were constructed between 1073 and 1262; the "white house" in 1275; and the Casa Grande ruins in 1365.

The extensive pre-historic canal system in the vicinity of Phoenix, Arizona, is one of the wonders of pre-historic construction — how these pre-historic people could construct many miles of irrigation canals and laterals, excavate millions of cubic yards of earth and through rock ledges with the primitive stone tools, and baskets with which to transport the waste material. No existing data or records have been found to identify the age, type, or tribe of people that constructed this great system of canals.

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The interior of the house will be entirely finished in sawn inch-lumber which may be painted or finished in natural colors. Wall, floor and ceiling panels will be insulated with a filling material of wood derivation. The house will have no basement, but a heater room with a fuel storage space is provided on a level about two feet below an opening off the kitchen. The cost of this manufactured dwelling is estimated at about $2,500.

LOS ANGELES SCHOOLS

The sale of $1,560,000 worth of Los Angeles city school bonds to the Bank of America, which was approved by the Board of Education, will mean the beginning of more than one million dollars worth of construction work within the next thirty days, according to William E. Record, business manager, who has been negotiating the sale of the bonds for the past two months.

Dr. A. H. Giannini, chairman of the bank's general executive committee, said: "Construction

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vital to the welfare of the Los Angeles schools has been held up for more than six months, because of the inability to dispose of bonds voted by our citizens. It is with the desire to start this needed construction and to put men to work that the Bank of America offered to buy these bonds at par. On the present market four and one-half per cent municipals have no buyers, and the Bank of America, which has been preaching 'Back to Good Times' is now translating words into action by buying these bonds and putting them into the bank's reserves."

Negotiations for the sale of the bonds were opened by Manager Record last August, after a deadlock of four months when all efforts to sell the bonds, which could only be sold at par, had failed. Mr. Record went to San Francisco to open negotiations with the chief executives of the Bank of America, and the purchase has been pending since that time.

"Plans are drawn, details are worked out, and we are all ready to start construction as soon as the bids may be advertised and the contracts awarded," Mr. Record said. "As soon as these final steps are concluded work will begin that will give employment to several hundred men."

Among the buildings planned and for which specifications are now ready are: Elementary: Ascot Avenue school, $84,000 approximate cost; Fifty-ninth street, $20,000; Graham, $63,000; Hadden street, $72,000; Ninth street, $100,000; Tenth street, $56,000; Topeka Drive, $72,000. This makes a total of $467,000 structures, some of which are additions to established schools, and some are replacements of obsolete buildings.

In the junior and senior high schools, need for additional space has long been felt at the following: Hollywood High School, an addition to cost approximately $100,000; Lafayette Junior High School, $50,000; William McKinley Junior High School, $25,000;

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Nathaniel Narbonne, $84,000; San Fernando High School, $125,000; University High School, $84,000; and Van Nuys, $84,000. These outlays total $552,000.

LUMBER SALES INCREASE

Although orders received at the lumber mills during the week ended September 24 were not so large as for the previous week, they were well above the average of the year to date and within three per cent of the new business of the corresponding week of 1931, according to telegraphic reports to the National Lumber Manufacturers Association, from regional associations covering the operations of leading softwood and hardwood mills.

General industry reports indicate more activity in the past three or four weeks, either in the form of orders or inquiries from lumber consumers, both for factory use and construction, than in many months. The volume of orders, however, though encouraging, in view of the industry's large aggregate stocks, is not sufficient to warrant an increase in production. Stocks at the mills though declining, are still excessive.

Orders received the first week in September by the 644 mills reporting to the National Association were 176,754,000 feet or 53 per cent above production. Production was 115,384,000 feet. Identical mills reported production 36 per cent below the corresponding week of 1931, compared with 40 per cent below the previous week.

INVITATION TO ARCHITECTS

Architects who are interested in housing, either with respect to the technique of site planning and large scale operation or with respect to the formulation and support of state housing laws designed to open up the credit reservoir of the Reconstruction Finance Corporation, will find it both interesting and profitable to be in Pittsburgh during the meetings of

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the National Conference on City Planning, November 14-16.

Frederick Bigger, Chairman of the Institute's Committee on Economics of Site Planning and Housing, expects to have a meeting of his committee at that time, supplementing the meetings of the planning body, and hopes that no interested architect will hesitate to join that particular group for round table discussion. Robert D. Kohn, who heads a subcommittee to promote and assist in formulation of state housing laws, believes that the members of the architectural profession should know of, and be invited to attend, the Pittsburgh meetings.

The sessions of the National Conference on City Planning on Monday, November 14, will be devoted entirely to housing.

NORTHERN CALIFORNIA CHAPTER

A meeting of the Northern California Chapter, the American Institute of Architects, was held jointly with the State Association of California Architects on the evening of September 27, at the Stewart Hotel, San Francisco.

Proceeding with business, the minutes of the previous meeting were approved as published.

The following resolution was introduced and upon motion of Mr. Ashley, duly seconded, was unanimously favored:

Whereas: The City of San Francisco has at great expense provided for the enjoyment of its citizens and guests one of the most

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important Civic Centers in the Country; and

Whereas: The temporary grandstands erected therein for the recent Shriner's Conclave entirely destroy the effect of its impressive design, constituting in addition a serious fire menace to the buildings thereof, as well as a substantial damage to the Civic Center planting; and

Whereas: For no known public reason certain sections of these grandstands remain in place nearly two months after their use has ceased; and

Whereas: This procedure is unworthy of the spirit of a great city; now therefore be it

Resolved: That the Northern California Chapter, the American Institute of Architects condemn the authorization of this desecration of the Civic Center; and be it further

Resolved: That the Northern California Chapter, the American Institute of Architects, urge that in the future no such use of the Civic Center or other developed public places of the City be tolerated under any pretext or circumstances; and be it further

Resolved: That copies of these Resolutions be transmitted to any and all authorities that may be concerned, including The Mayor, The Board of Supervisors. The Chief Administrative Officer, The Board of Public Works, The Park Commission, The Art Commission, all of the City and County of San Francisco.

The Nominating Committee reported its selection of candidates for the offices of the Chapter, for the year 1932-1933, to be as follows:

John J. Donovan, President; Raymond W. Jeans, Vice-President; James H. Mitchell, Secretary-Treasurer; Henry H. Gutterson, Director, two years; Roland I. Stringham, Director, three years; George R. Klinkhardt, Director, three years.

Upon motion, the report was accepted.

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From a Photograph by Shaw

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Photo by Moulin

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Next Month

THE recent work of H. A. Minton, promised for the November issue, will be shown in December, the postponement being due to the completion of the San Francisco War Memorial Group which is featured in the current issue.

The second installment of Elmer Grey's series of reminiscences, "The Vicissitudes of the Young Architect", will be of particular interest to the younger practitioners of architecture.

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Photo by Moulin

OPERA HOUSE FROM WINDOW OF CITY HALL, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

THE
ARCHITECT
AND ENGINEER

NOVEMBER 1932
VOLUME 111
NUMBER TWO

THE SAN FRANCISCO WAR MEMORIAL GROUP

by
B. J. S. CAHILL, A. I. A.

I have been asked to characterize the new Opera House in a paragraph—I wish that I had the power! Still, though Mr. Cahill in the article which follows, contributes far more than I can to this fine subject, I am tempted to lay my laurels beside his. Now that the great labor is done, above this babble of acoustics and incredible equipment that is ringing in our ears, beyond the provisions for our creature comfort, beyond even the decorative treatment of this element or that surface, let me as another architect pay my tribute to the fabric as a whole—to the building itself—for in its conception and realization is bound up the essential genius of my fellow craftsmen. Direct, commodious and lovely, it admirably serves its public and its purpose. All praise to those who out of confusion brought thus order and beauty! —*Warren Charles Perry.*

Director of the School of Architecture, University of California, Berkeley.

A YEAR ago the writer described in these columns with enthusiasm and admiration a new theater and it may be argued that it must be difficult if not impossible to write of the new Opera House in the same vein seeing that the two structures are diametrically different in design, the former being an emphatic reaction and repudiation of all the traditions and spirit of the latter. The two buildings are whole poles apart. As an example of architectural design the Paramount Theater in Oakland and the Opera House in San Francisco have absolutely nothing in common except that they are both dedicated to the purpose of public entertainment in drama and music, separately or combined.

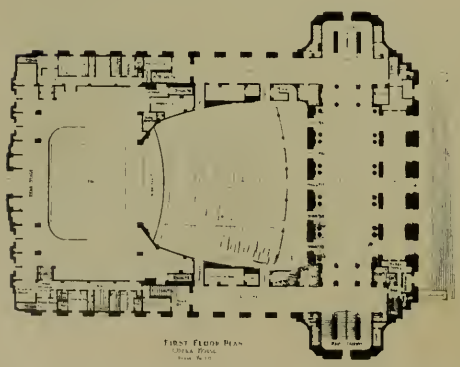
Very many, perhaps the majority of people, will praise and appreciate both creations with equal zest. Why therefore, the thoughtful reader may ask, if extremes can meet in a common appreciation, why cannot similar dirversities in other fields than art, he comprehended and appreciated by one person. Since Art is a human product in spite of its range, any human being should understand its protean moods and sympathize with all of them. And, to go further, why not include patriotism, politics and even religion?

The critic of the fine arts who can show that schools of utter divergence merely express different moods, modes or fash-

ions, developed by different races at different periods, which are yet all human, is working towards the larger comprehension which should and will lead finally to a universal or divine tolerance in all things; international understanding, economic world order, perpetual peace and then—in some far distant day, the Millennium!

The Opera House with the War Memorial and Federal Building herewith illustrated are, of course, parts of the Civic Center. The architecture throughout is best described as Classic because this great style with all its elements of the Greek and Roman orders welded together during the Italian Renaissance represents the great permanent body of architectural doctrine, the keynotes of which are Order, Authority and Universality. It is architecture itself; entrenched, systematized, catholic and everlasting.

Other styles, revolts, protests come and go. Some flourish and remain, like Byzantine, Romanesque, Gothic and Saracenic. But the Classic remains, and after each revolt or reaction gathers itself into new solidarity and strength. It is the static perpetual force of permanence as against the dynamic and occasional force of revolution, seen in all the work of Nature and Mankind alike.



PLAN OF FIRST FLOOR, OPERA HOUSE, SAN FRANCISCO

A striking parallel occurs if we consider Rome as its headquarters and Latin its dialect.

It is curious to note the schisms and revolts from the central power in War, Religion and Architecture and as we shall see, even Grand Opera!

First Rome conquers the Germanic tribes to the North who a few centuries later advance South and in turn conquer their conquerors and sack their city! Since Rome epitomized civilization all outer tribes were termed barbarians. Conservatism always thus describes its critics—schismatics, protesters and revolutionaries. When Roman architecture became Romanesque and by the Northern conquerors was then adopted and transformed to the great Ecclesiastical Style it was still the architecture of a whilom barbaric people and although developed by the Franks it was named in derision and contempt after these barbarians.

After the fall of the Roman Empire the secular dominance of Pagan Rome gave place to the spiritual dominance of Papal Rome, aut gladio aut cruce, if not by the Sword, then by the Cross! Yet to show that the long line of revolts and schisms continued to expand and that none the less the Central Power did not dissolve and did not disappear it is most curious to note that when Papal Rome was at the very zenith of its power throughout the whole of Western Europe, that is during the 13th Century, the original "barbaric" architecture or Gothic was also at its greatest glory and perfection so that spiritual Rome and the art development of Rome's greatest enemy were now so thoroughly united that they are practically one, and the architecture named from the old time Goths who sacked and burned the very homes of Pagan Rome now housed the congregations of Papal Rome!

But more revolts are to follow a few centuries later led by the Germans again, when Luther turned most of Northern Europe once more against Rome's spiritual sway and, most remarkable to note, at the very same time, the Renaissance in Papal

Italy was once more restoring to supremacy the Art and Architecture of Pagan Italy! The Palladian-Vignola style, as we may reasonably call it, a few centuries later was again revitalized by the Ecole des Beaux Arts and magnificently exemplified in Charles Garnier's masterpiece, the Grand Opera. And this, let it be known in the identical area, the Isle de France, where Gothic Architecture was invented and most gloriously expressed at Rheims, Rouen, Amiens, Beauvais.

Directly from this influence came the classic revival in the United States in the Boston Library, straight from St. Genevieve in Paris, and the initiative of McKim, Meade and White culminating in the greatest full sized models of Classic Architecture ever beheld in the modern world, the Chicago Exhibition of 1893.

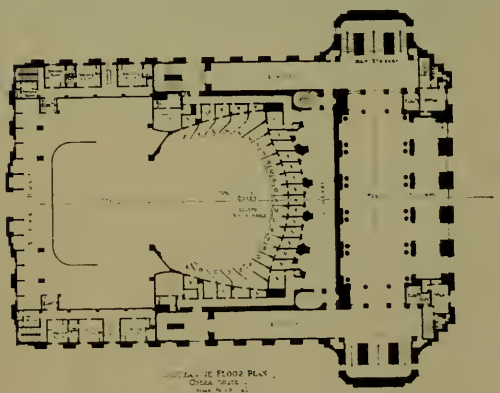
Following the apparition of these wonderful buildings of Chicago's Dream City, by far the most memorable feature of the Exposition, the trend of American Architecture has been Franco-Roman, especially as the official style for public buildings, the reconstruction of Washington along the lines originally laid out by L'Enfant and in the various groups of buildings in most large cities where "Civic Centers" are being established.

And these groups of buildings, unlike the transient dreams of the Chicago Fair, will be realized in steel and stone and not in staff and stucco.

And now let the reader note the whirligig of time, for again the Germanic revolt like Banquo's ghost, stalks across the placid scene of classic complacence. This new apparition of protest takes form in the very city where the glory of Rome was so magnificently envisaged but forty years before.

The World Exposition to be opened next year in Chicago will be utterly at variance with every tenet and doctrine, practice and detail of the Classic spirit. All historical form will be "bad form" and the "Orders" will be out of order. The "protest" will again be Germanic since, as a matter of fact it is Berlin that, in recent years, has abandoned the Classic and set the pace for a new Architecture built with rude and rugged honesty and sometimes sheer ugliness on continuous concrete surfaces and not, as of old, on "discrete" blocks of stone. For, since the arch developed Roman architecture out of Greek, the vault made Gothic architecture out of Romanesque, and as the Renaissance emergence of secular needs displacing religious ones developed modern Classic, so it is not impossible that the all plastic qualities of concrete clothing a skeleton of steel may really lead to a new abiding and beautiful style.

At any rate we have seen in these pages that both methods have their value and to appreciate one type is not to condemn the other. And this principle—the equal tolerance and open acceptance of opposites in Architecture now possible and actually established in the modern mind is really a remarkable advance in thought. We no longer take violent sides. The Classicist does not repudiate the innovator. The pioneer along new lines still respects the discipline and school training of the "regular thing", as Montgomery Schuyler used to call it. How welcome the thought that this established tolerance in architecture could be extended to other fields. Only when violent partisanship is abolished will the world ever come fully to its senses. And



PLAN OF MEZZANINE FLOOR, OPERA HOUSE, SAN FRANCISCO

if this brief homily suggested by the Paramount Theatre in Oakland and the Chicago Fair of next year, contrasted with the New Opera, the Civic Center and the Fair of forty years ago is worth some serious thought this preamble may be more pertinent than it first appears to be. It is noticeable that this static Italian-born style dominating the 18th Century - and - after world of music culminated in the German revolt of Richard Wagner. He showed up the absurdities, the insincerities and the frivolities of the Italian Opera just as surely as Ruskin had so eloquently pointed out the similar deficiencies and defects of the Italian Renaissance in architecture. An

Photo by Sturtevant

OPERA HOUSE AND VETERANS' BUILDING, WAR MEMORIAL GROUP, SAN FRANCISCO

Arthur Brown, Jr., Architect; G. Albert Lansburgh, Collaborating Architect on the Opera House

of styles calls for less comment and discussion than any architecture of dynamic protest or revolt, just as an earthquake or a revolution makes news while normal tranquility does not.

An opera and symphony theater in a modern city differs in some respects from similar structures of a generation or so ago, and this for the reason that in music we see again a repetition of the same conflict we have been describing with precisely the same national or racial line up.

Italian Opera as the entrenched system apostle of Schopenhauer the philosopher of will power, Wagner so masterfully impressed the world with his reforms that Italian Opera seemed doomed forever, or left to survive merely as a fashionable diversion unworthy to rank as the Art of a serious and sincere people. Henceforth the Beyreuth theater was to set up a new epoch where "the poetry of Shakespeare wedded to the music of Beethoven", as Wagner so modestly described his own output, was to dominate the world. Did not the Ninth Symphony foreshadow this with

its recitatives and chorus? Had not this epochal work overstepped the threshold of impersonal music into the field of personal drama?

But, just as Luther's Revolt from Rome, while starting new styles of worship, none the less resulted in so powerful a reaction of Mother Church (whose practice he pro-

cance is that both schools were represented and equally applauded and appreciated by the public, and this would also be the case in Philadelphia or Cincinnati where the proportion of the schools of Opera in the program might well be reversed.

It is pertinent to note the ever recurring vitality of the Italian genius which has

Photo by Sturtevant

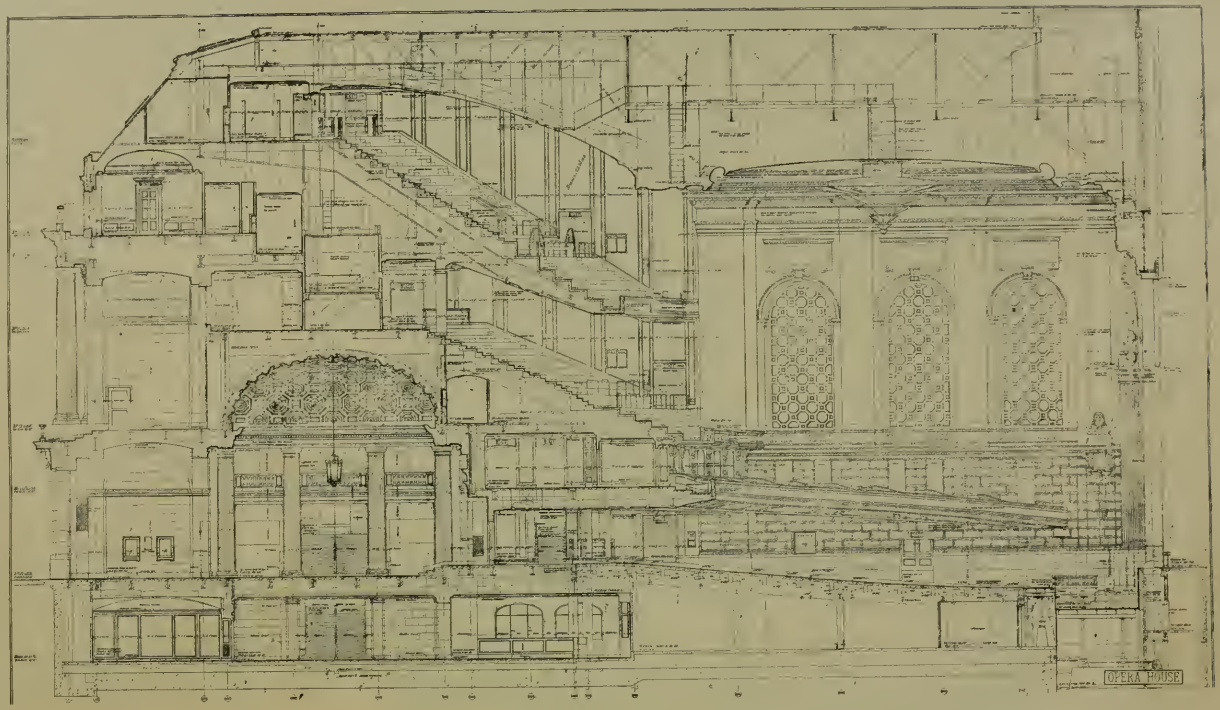
REAR VIEW OF OPERA HOUSE, SHOWING STAGE PAVILION; CITY HALL IN CENTER AND VETERANS' BUILDING ON THE LEFT

Arthur Brown, Jr., Architect; G. Albert Lansburgh, Collaborating Architect on the Opera House

tested) that it is now in the world of religion, again as strong and universal as ever. Just so has Italian music itself rebounded from Wagner's influence and finally surrounded and almost submerged it. Wagner's innovating influence is waning and modern Italian Opera is stronger than ever. The program of the New Opera plainly shows it. Eight Italian Operas, including Faust, wholly Italian in spirit though a German theme by a Frenchman; two Wagner music dramas and one other German, though Italian in treatment. The signifi-

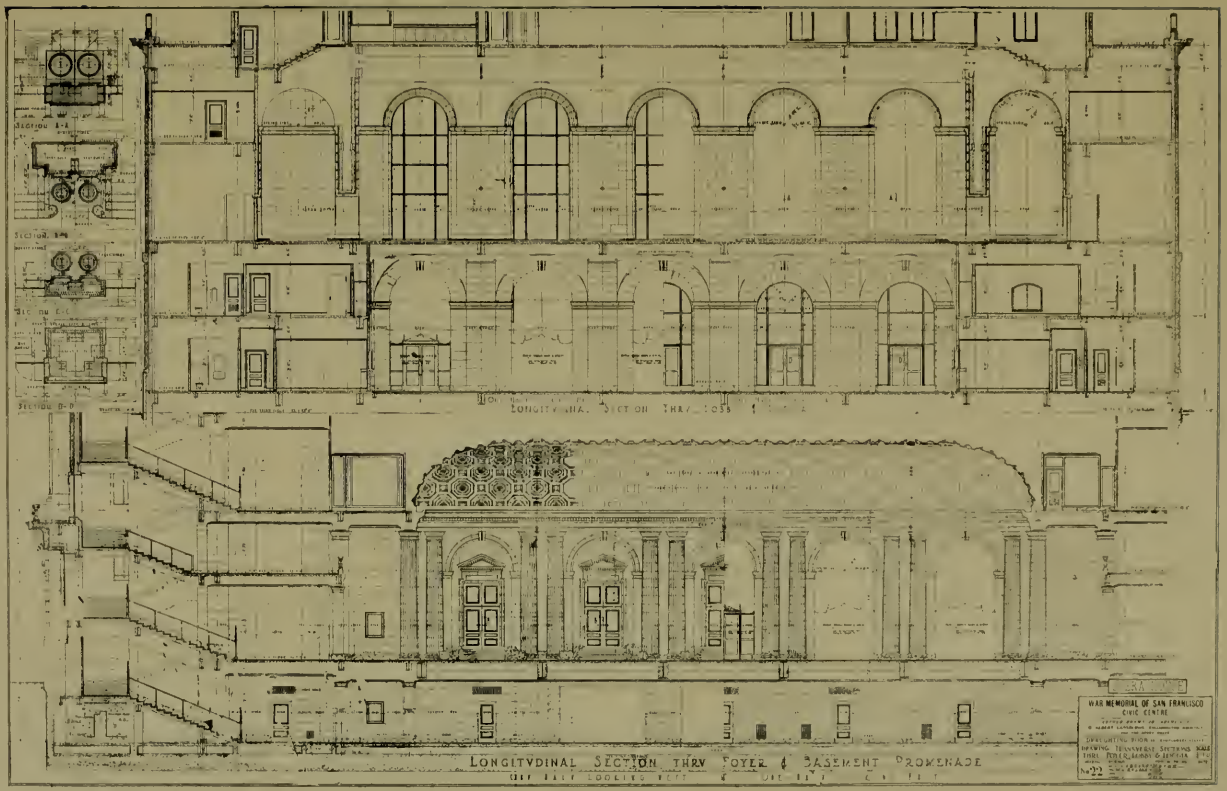
come to the foreground and leadership in the world four times in three thousand years of history, a record unparalleled by any other race. Well may Rome be called the Eternal City, and significant is the fact that the greatest award of the Beaux Arts is the Grand Prize of Rome, where its most brilliant pupils are sent to complete their studies.

To return to the Opera House; something of the Wagnerian reforms have influenced its design, either consciously or unconsciously, or perhaps because all



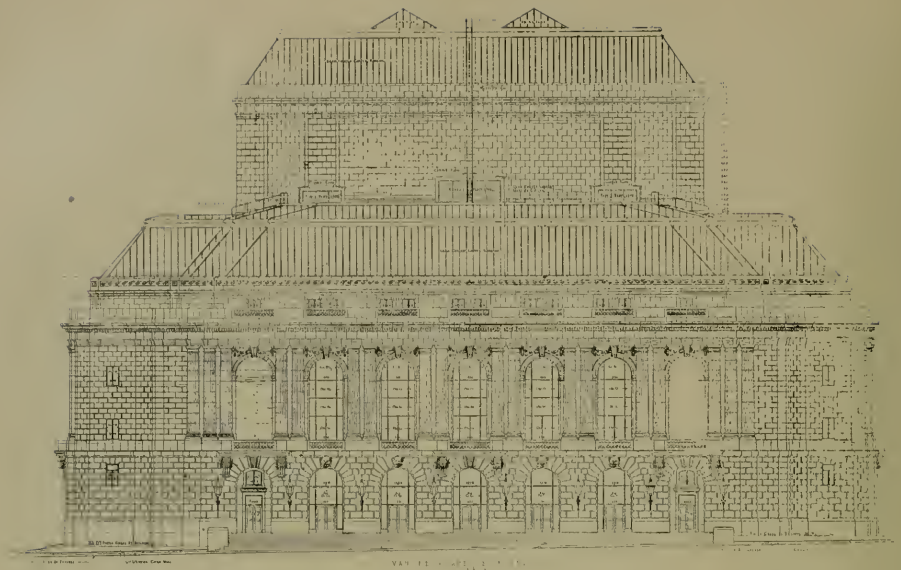
LONGITUDINAL SECTION THROUGH AUDITORIUM AND GALLERIES, OPERA HOUSE, WAR MEMORIAL GROUP, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE



SECTION THROUGH FOYER AND BASEMENT PROMENADE OF OPERA HOUSE, WAR MEMORIAL GROUP, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE



VAN NESS AVENUE ELEVATION, OPERA HOUSE, WAR MEMORIAL GROUP, CIVIC CENTER, SAN FRANCISCO

Arthur Brown, Jr., Architect; G. Albert Lansburgh, Collaborating Architect on the Opera House

opera houses have responded more or less to the Wagnerian reformation.

These changes consist in the curtailment of the splendiferous grand foyer and the staircase de luxe where the audience were wont to convene and to see a parade of bemedaled magnificoes and their bediamonded grand dames like very mundane angles on a Jacob's ladder ascending and descending in the very real heaven of their dreams.

Instead there is a reasonable foyer for the general public and an intimate and quite delightful special foyer on the mezzanine with stairway connection for the exclusive service of both stalls and boxes. The parading of clothes and jewelry so objected to by Wagner is here limited. In the same spirit the side boxes where occupants find that being seen by the rest of the audience was a more enjoyable thing than watching the performance, a practice not so difficult to understand in people to whom opera going is a habit and a social diversion, "to see and be seen"; a custom to which the very technique of the old opera deliberately played up to. For did it not include some scenic spectacles and the inevitable ballet for the groundlings and the front row, long recitatives so that people could chat in their boxes on the side, an occasional aria by the prima donna or other star who stepped out to the front, got a moments real attention and did their brilliant bit of virtuosity?

Another Wagnerian innovation partly complied with is the disappearing orchestra. Wagner contended that the gesticulations of the conductor together with the sawing of the bow strings produced a visual distraction not to be tolerated. In this connection in some cases probably Wagner was wrong, for many a long tedious recitation of his Norse demi-gods might have easily bored the audience but for the fun of watching the baton waving of the conductor or the amusing antics of the man at the tympani and cymbals.

To the depression of the orchestra fifteen feet below the stage is added another feature connected with the elevation of the stage so that strips of the floor about four feet wide can be raised to any height forming a grand flight of steps to accommodate a great symphony orchestra or the members of a huge chorus and for many other spectacular purposes. The stage can, furthermore, be built out towards the front two whole rows of seats on certain special occasions for scenic spectacles of extra special magnitude.

Another feature of this Opera House which may be considered a result of the Beyreuth experiment is the extreme simplicity of the decorations and wall treatment.

The interior details suggest outdoor rather than indoor design, which is not a bad idea. The general holding color is a very soft chamois leather tone picked out with gold, the curtain being of rich gold brocatelle and the seats and backs of all fateuils throughout a pleasing cherry red.

A highly decorated and gorgeous theater would distract attention of the audience who should be like disembodied spirits with only eyes for the actors and ears for the music.

Along these lines the great simplicity and austere restraint of this charming and restful interior is well in accord with the teaching of the reformer of Italian Opera, who avoided even the very word "Opera" and its supposedly artificial and frivolous connotations.

It will be noted that on the side walls where in the old time horse-shoe plans, the boxes were placed, are here set instead three well recessed window openings, nicely subordinated to the central proscenium. These are filled with an octagonal and square tracery of stone, backed by a wire screen and draped in front with the same fabric as the stage curtain. These grilled apertures will serve to mask the organ pipes when they are installed.

The curtailment of the spectacular grand foyer with a purely practical stairway system at each end permits of course the space thus saved to be added to the stage giving that great depth so necessary in a theater to serve many varied purposes and to allow sufficient outside foreground for both Opera House and War Memorial on both the Van Ness and Franklin Street frontages, and, be it not forgotten, to bring the cost within the appropriation.

The Doric severity of the front foyer with its coffered and vaulted ceiling, the same octagonal arabesque of the organ screen inside, is indeed a most admirable composition of pure Classic restraint and perfect proportion both as a practical distributing area or clearing house of the general circulation and as an architectural overture to the entertainment within.

On the other hand, one feels a bit disappointed in the far ends of this admirable inner vestibule which carries the eye across the side corridors of distribution to decidedly stark looking staircases. If this is a protest and a rebuke to the extravagant grandiloquence of the Parisian model, it would seem that the recoil goes a little too far. Perhaps some easily adjusted drapes might give these vistas what the public likes in plays, a happy ending.

There is no doubt but what the planning of a complete Opera House with all its requirements is the most difficult and complicated problem the architect has to deal with. It is not our province or purpose to go into these details at this time. The sight lines, seating, acoustics, lighting and circulation of this structure have already been tested and found to be without fault or flaw. The efficiency of such a structure cannot be determined by any inspection of blue prints. In a double sense it is not the plan but the performance that counts.

The outer architectural envelope of this Opera Building when duly arrived it, defined also the form of its own twin counterpart across the line of Fulton Street, known as the War Memorial, with the major difference that the great scenery loft of the Opera naturally demanded a tall vertical pavilion at the rear, not duplicated in the Memorial; as well as minor variations in the fenestration and of course a different interior. Yet, by reason of a central audi-

torium something of a general kinship persists in the two structures.

The first proposed plan of October, 1899, to improve the City of San Francisco and establish a great group of monumental buildings at the City Hall, (the central feature of which, by the way, was an Opera House) was conceived and made public on a full page of the *"Examiner"* for October 8, 1899.

The second plan, the present Civic Center as finally adopted was made in 1904, revised and published in THE ARCHITECT AND ENGINEER for July, 1909 and again in the September issue of 1918.

It is gratifying to see the final completion of the Civic Center is practically in the very competent hands of the architect who has, so far, contributed much to its fulfillment. That part of Fulton Street which opens up the approach from Market Street will have on its right the Federal Building, herewith illustrated, extending from Hyde Street to the Library at Leavenworth.

On the opposite side, (a gore block) and at the backs of other buildings facing on Market Street, a space has been provided twenty feet from the street line on which may be built a monumental facade replica of the opposite Federal Building, either as independent extensions of the adjacent buildings or perhaps an enclosed arcade for some rentable purpose not yet exactly determined. This will provide the monumental approach to the Civic Center.

Much of the same sort of thing was done in Paris on the Rue de Rivoli, where, from the Place de la Concorde one sees the Madeline hrough a short arcaded avenue, on either side.

There remains but one building opposite the Library towards Market Street, where at one time the Opera was to go. This will, in all probability be a Law Building to house courtrooms, library, offices, etc., drawn from other overcrowded buildings, notably the City Hall.

One more building and a facade is then all that remains to complete the whole scheme, with the exception of four small buildings to fill out the picture at the corners of the big Central Plaza.

And then should follow, when times warrant, the widening of Fulton Street half a block on each side to Ash and Birch Avenues, the parking of the 320 foot Boulevard which the writer originally (1904) christened "Ashfulton Avenue" as far as Steiner Street, thence through a cutting across Alamo Square and diagonally three blocks to Broderick to meet the Panhandle extended one block West.

This would improve a cheap and dreary section, make a beautiful drive, furnish at least two new monument sites and supply the city with a complete conflagration baffler from the Ferry Building to the Ocean.

Property is cheap in this section and the raised values on Grove and McAllister Streets should more than pay for the park making and provide a profitable, much needed improvement to relieve unemployment, since most of the work would be wrecking, digging, hauling and other unskilled forms of labor.

A bond issue for this purpose would be valuable to capital and labor, both of which are just now desperately in need of employment.

With the one exception of Washington, D. C. our Civic Center, so materially advanced with the completion of the Opera and War Memorial, will, without doubt when fully carried out, form the most extensive, complete and magnificent group of monumental structures on this continent if not, as the Duke of Connaught said when passing through San Francisco some years ago, "the finest thing of its kind in the world".

Photo by Sturtevant

OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

DETAILS OF FACADE, OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

STAGE ENTRANCE TO THE OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

Architectural re-cut stone by McGruer & Co.

DETAIL, FOYER OF THE OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

FOYER OF THE OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

NIGHT VIEW OF LOGGIA, OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

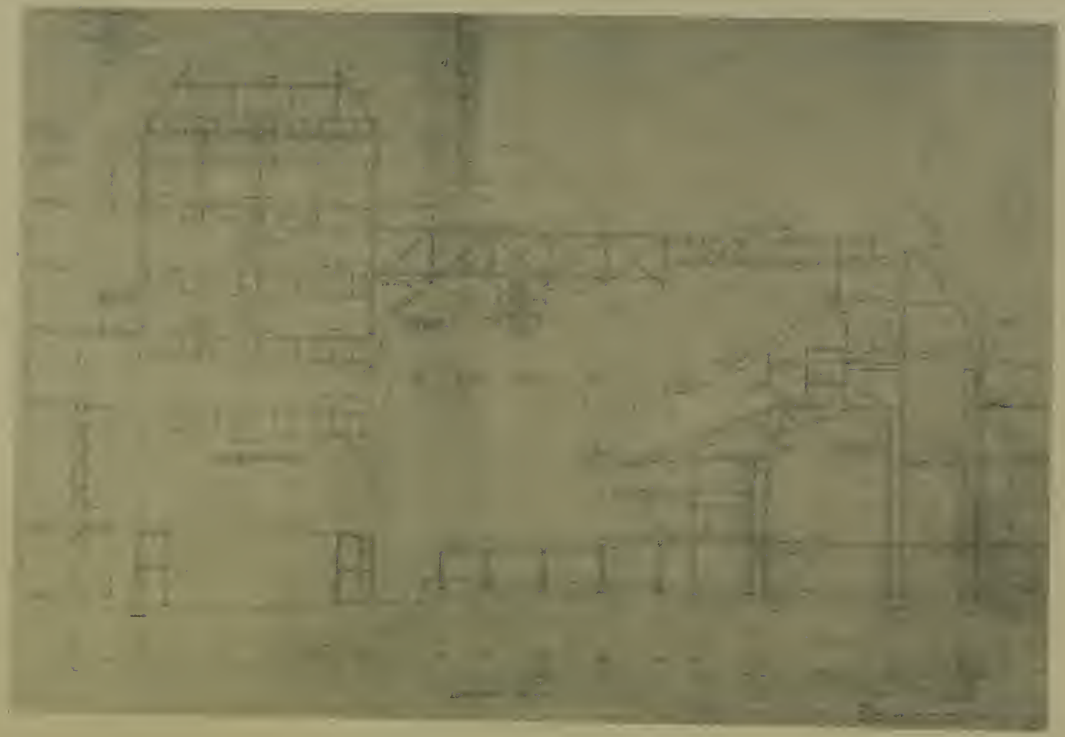
ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

AUDITORIUM OF OPERA HOUSE, SHOWING BOXES AND ORGAN SCREEN, WAR MEMORIAL GROUP, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE

BALCONY END OF AUDITORIUM, OPERA HOUSE, WAR MEMORIAL GROUP IN CIVIC CENTER, SAN FRANCISCO

ARTHUR BROWN, JR., ARCHITECT; G. ALBERT LANSBURGH, COLLABORATING ARCHITECT ON THE OPERA HOUSE



STRUCTURAL PLANS, SHOWING BOX AND BALCONY TYPE OF CONSTRUCTION, OPERA HOUSE, SAN FRANCISCO
CHRISTOPHER H. SNYDER, STRUCTURAL ENGINEER

STRUCTURAL FEATURES OF THE SAN FRANCISCO OPERA HOUSE

by
Christopher H. Snyder, C. E.

SAN FRANCISCO'S new Municipal Opera House is built of the conventional Class A Type, with full steel frame and short span floor construction. Every effort was made to make the structure a worthy companion to the other buildings in the Civic Center. Owing, however, to various considerations, architectural, theatrical, etc., and to site conditions, there are some features of the design which are out of the ordinary.

The building rests upon a deep layer of what is commonly known as bank sand and ground water is at times well above the basement floor level. In order to keep out the ground water, and due to wide spacing of columns, it was decided to resist the water pressure by a thick layer of concrete. This concrete was about 1 to 10 and designed for density to resist the passage of water. This concrete reached its maximum thickness under the stage at 8½ feet. The thinnest holding down slab was 1'-0" and as the column footings had been poured earlier the water was prevented from flowing in the junction of the two pours by 16 oz. copper baffles. Upon this slab was placed gravel about two feet thick, and on this, in turn, was placed the six inch basement slab. Various pipes were laid in the gravel as required by the mechanical engineer; also drains for taking care of any ground water seepage. There has been little if any seepage so far.

Box and balcony construction differs from the usual in that there are no balcony girders, the cantilevers being parallel to the axis and supported directly by steel columns. In general the cantilevers are made of deep rolled beams rather than trusses. These beams in turn support the usual type of concrete balcony steps. (See Fig. 1, sheet S-14.

The stage is interesting on account of its size and unusual amount of equipment. The stage floor clear of columns is 72'x126'.

At 39' above stage floor are the first fly galleries, projecting out from each side 25'. Three additional fly galleries, all the same size, are on each side, one above the other, the highest being 102' above the stage. Above these is the usual gridiron, 116' above the stage, and above this at 125' another gridiron. Cat-walks connect the upper fly galleries. The fly galleries are supported by plate girders of 72' span and are reached by passenger elevators from the stage floor, one on each side.

The stage block is insulated from the balance of the building by concrete walls, as is also the auditorium, and the steel work is protected by concrete fireproofing.

In addition to the fire walls above referred to the steel work is thoroughly braced against lateral forces. Granite columns have steel column cores as part of the steel frame. To further stiffen the building as a whole the terra cotta exterior walls are backed with reinforced concrete, poured against the terra cotta.

Most careful precautions were taken against fire hazards and lateral forces.

The building contains about 6,000,000 cubic feet. Some 3800 tons of structural steel were required for its construction, or about 1.28 lbs. per cubic foot of building.

THE ACOUSTICS OF THE SAN FRANCISCO OPERA HOUSE

by
CLIFFORD M. SWAN
Consulting Acoustical Engineer

IN designing a theater or hall for the production and audition of music, attention must be directed primarily to its shape if the acoustical condition is to prove satisfactory. This means careful consideration, not only of the general architectural style, but more particularly of the dimensions, the distribution of the audience, and the contour of the reflecting surfaces of walls and ceiling. If these details are worked out with sufficient care, and if furnishings of suitable sound - absorbing qualities are chosen, it is usually not necessary to resort to any artificial surface treatment with commercial acoustical materials.

In fact, if this fundamental question of design is not adequately taken care of, no amount of subsequent medicinal applications will ever produce a wholly satisfactory result. One readily calls to mind many disappointing auditoriums which no amount of expense has been able to remedy, and which can never be corrected except by the radical surgical treatment of re-design and rebuilding. A generation ago, it was thought that only sheer luck could be counted on to produce favorable results, and even today that idea is all too common, including the archaic and wholly useless nostrum of stringing wires. Science and experience during the past thirty years have taught us to know better, and have shown that it is amply possible to predetermine the effect of any given design and to reject those forms which will prove hurtful.

The secret of the success of the new War Memorial Opera House in San Francisco lies in the fact that the planning of the auditorium was the result of careful study for weeks and months by the architects and their engineers. Numerous preliminary sketches were made, considered, and rejected on account of factors which would have injured the desired acoustical results.

Some were thrown out on account of concave curved surfaces which would have produced focussing of sound and resultant echoes; others on account of excessive height or width which would unduly increase the reverberation and cause delayed and interfering first reflections; and still others on account of deep and low overhanging balconies which would have made difficult the penetration of sound waves to the back of these recesses.

The design finally chosen was such as to eliminate or reduce to a minimum all of these difficulties; while at the same time there were provided sufficient hard reflecting surfaces of proper extent, contour and location to re-enforce the direct sound waves and produce sufficient loudness for comfortable hearing even in the most remote parts of the house.

The degree of reverberation was calculated, and adjusted to its optimum value for an auditorium of this size and character by means of the heavy absorbent furnishings and the disturbed absorption of the audience.

The acoustical result in the completed building is in full accord with the theoretically computed and predicted condition. The reverberation or time of decay of individual sounds is reduced by the absorptive materials to a degree which eliminates undue overlapping or blurring of successive tones, and yet does not so far absorb the delicate overtones of the instruments or voices as to injure the quality of these sources. The reduction of loudness in far parts of the auditorium caused by the presence of the absorbing materials necessary to diminish the reverberation is offset by re-enforcing the sound of the direct wave

[Concluded on Page 59]

OPERA HOUSE STAGE LARGEST IN AMERICA

by
DARIEL FITZKEE

TRULY it may be said in all conscientiousness that the stage of the Opera House of the San Francisco War Memorial is one of the world masterpieces of stage engineering. Often the term has been used extravagantly in praise of some less worthy subject, but here used in just comment our words seem to fall far short of adequate.

The proscenium, picture frame of the stage, is one of the largest used for operatic purposes, limited as it must be through acoustical restriction to the seating capacity. From the soffit to the stage floor it is approximately fifty feet and the side to side measurement is fifty-two feet.

Behind the proscenium the gridiron leaps to the dizzy height of one hundred and sixteen feet—almost twelve stories between floor and ceiling! Wall to wall the measurement is approximately one hundred and thirty-five feet, while the backwall is about ninety feet from the proscenium.

Closing the arch is an asbestos and steel fire curtain, electrically operated, weighing about ten tons. This has all improved features along the lines of automatic releases, checks and the like.

Perhaps from the audience viewpoint the feature of the stage is the front curtain. Unlike most curtains of its kind it has the facility of draping itself in any desired shape or design at any desired speed. The material for this curtain is a specially designed gold brocatelle woven for the Opera House by the Orinoka Mills. In fact, this material has been used throughout the stage for permanent draperies, and is also featured in the large arches in the auditorium.

The front curtain operates from an all-electrical device called the opera drape, so named because its first use anywhere is on the stage of this opera house. The mechanism consists of a battery of motors with remote control limit switches and speed controls, all of which may be preset and operated at the touch of a button.

Installed in the stage floor are four electric bridges, four feet wide and extending the full width of the proscenium opening. These will descend eleven feet below the stage and eight feet above. Running in tracks beneath the floors on either side of the stage are panels to slip into place when the bridges are below. These are called scroto sliders, and they too move electrically.

Immediately back of the bridges are five rows of manually operated traps, which will reach a height of seventeen feet. There are twenty-nine of these.

With the bridges and traps it is possible to devise steps, platforms, terraces, hills and a great number of other forms without difficulty. Also, it is possible to set the properties and furniture for a subsequent scene beneath the stage and bring them into place when needed.

There is built into the stage also a steam curtain and a great number of connections and facilities for water and smoke effects.

Beneath the stage there is a gauze truss weighing almost two tons, making it possible to present spectacular scenic effects, particularly those in the Wagnerian operas, requiring the blending of one scene into another.

The tormentors and grand drapery are supported by steel bridges, acting as light bridges. An auxiliary spotlight bridge

hangs immediately above the grand drapery bridge.

There are in all eight border lights, all of which are supported by light bridges and the last of which carry a huge battery of 1000 watt flood lights for illuminating the eighty-five foot high silver sky cyclorama.

There are 104 sets of steel cable lines for operating the various scenes, many of which are operated by motors.

The lighting equipment is one of the most elaborate in the world. All of it is operated from the tremendous switchboard thirty-nine feet long which incorporates the latest features in pre-selective remote control.

The footlights may be automatically brought into view or dropped into the stage.

One of the features of the lighting equipment is the new German double cloud effect machines, conceded to be the most realistic effect machines of its kind ever conceived. The entire lighting equipment was devised by Robert L. St. John with Chas. Holzmueller consulting.

Complete facilities for the manufacture of scenery, lighting equipment and costumes are provided in fully equipped workrooms, and shops. Scores of dressing rooms for musicians, singers, dancers, and principals are located on both sides and beneath the stage. In addition there are rehearsal rooms, libraries, offices and studios for all heads of the various departments.

Credit should be given A. Wagstaff for his assiduous and capable work in coordinating the ideas gathered by the architects from the best technical men in the country and putting into working condition such a complete stage mechanism that already has proven its flexibility and adequateness.

The stage equipment, including all stage draperies, but exclusive of elevators and traps, was manufactured by the Stage Equipment Studios of San Francisco, Fred E. Turner, manager. The writer directed the manufacture and installation of this equipment.

The stage bridges and traps were manufactured and installed by Elevator Supplies of New York City.

FEDERAL OFFICE BUILDING, CIVIC CENTER, SAN FRANCISCO
Arthur Brown, Jr., Architect

MECHANICAL EQUIPMENT OF WAR MEMORIAL GROUP

by
Wm. E. LELAND, M. E.

THE boiler room is located in the west end of the basement of the Veterans' Building, and here steam is generated for the entire heating and ventilating requirements of both the Opera House and Veterans' Building. The boiler plant consists of three 150 horse power low pressure welded steel boilers, and one 25 horse power boiler of the same type for the supply of steam to the hot water tanks only. The boilers were originally intended to be operated with oil fuel, and the oil tank and piping were installed. Later it was decided to use gas for fuel and the oil burning equipment was replaced by natural gas burners of the vertical tube type.

All piping for the supply of the Opera House is run through an underground tunnel between the boiler room and the sub-basement under the stage.

There is no mechanical equipment in the Opera House except the heating and ventilating apparatus and the pressure tanks for the sprinkler equipment of both buildings.

The heating and ventilating plant for the Opera House consists of about 35 separate motor driven supply and exhaust units, grouped in four fan rooms, two in the basement and two on the fourth floor level, all of this equipment being symmetrical about the longitudinal center line of the building. The auditorium is heated and ventilated by a supply and exhaust system of the upward type, with plenum chambers under the main floor, under the dress circle and under the balcony, and exhaust screens in the ceiling at the rear of the orchestra, in the box vestibules and at the rear of the dress circle and the balcony. There is also supply and exhaust in the lobby at the rear of the boxes.

There are six supply fans for the auditorium, handling a total of 100,000 C.F.M. and four exhaust fans handling a total of 94,000 C.F.M. or about 30 cubic feet per minute for each seat.

The main lobby, foyer and all side lobbies are provided with a fresh air supply of 40,000 C.F.M. handled by two fans in basement fan rooms and a total exhaust of 28,000 C.F.M. handled by two fans in attic fan rooms.

All of the basement rooms have supply and exhaust with two separate fans for each; and the dressing rooms, and other similar rooms above stage level, are also ventilated by two supply and exhaust fans.

There are four toilet exhaust fans, two for the toilets in the front of the house and two for the toilets in stage portion of the building.

Separate supply and exhaust ventilating fans have been provided for the board room, chorus room, projection room, broadcasting room and the main light fixture, where mechanical ventilation is necessary on account of the large amount of heat generated by the lamps in this fixture. A ventilating fan is also provided for the drop storage room in the stage basement to keep the scenery stored therein from deterioration.

The stage area and all dressing rooms adjoining are heated with direct radiation, the radiation in most of the dressing rooms

being located behind screens. The stage radiators (23 in number and containing a total of 2,743 square feet) are located near rear wall on stage level, on sides of stage and on each side of arch about 20 feet above stage level.

The entire equipment is Johnson Service under thermostatic control with separate control on each side of auditorium and on each seating level, so that it is possible when heat is required, to deliver air at different temperatures to the orchestra, dress circle and balcony. All of the lobbies and side corridors are likewise under thermostatic control.

All of the ventilating fan units are under remote control from a small switchboard on stage near the main stage board and on this board are also located 3-way valves operating master steam valves for each of the fan type heating units, thereby giving perfect control of all the heating and ventilating equipment from the stage.

The entire fresh air supply is filtered through sectional type dry filters, one filter unit being used for the entire air supply to each basement fan room and a separate filter for each supply fan in the case of the attic fan rooms.

The main entrance lobby on the Van Ness Avenue side is provided with hot air supply entering on each side of the entrance doors, and the corresponding exhaust is on each side of the doors leading into auditorium from the main foyer.

A complete mechanical vacuum cleaning system is installed, with the machine located in one of the basement fan rooms.

The equipment for the Veterans' Building consists of direct radiation for the general offices, and mechanical supply and exhaust ventilation for the meeting rooms, auditorium, galleries, etc.

The main vestibule and trophy gallery is provided with a recirculating supply and exhaust system handled with a single fan, the supply being delivered at the main entrance doors of the lobby and the recirculation taken from the trophy gallery.

A single supply fan and an exhaust fan supply heat and ventilation for all of the meeting rooms on second and third floors, each room having a thermostatically controlled aerofin heating unit in the branch supply duct in attic. There are no direct radiators in any of these rooms, and a portion of the exhaust air from each room is taken from the small kitchen service rooms, thereby maintaining a suction in these rooms at all times.

The auditorium in this building is provided with a separate supply fan of 27,000 C.F.M. capacity and an exhaust fan of 25,000 C.F.M. capacity.

Owng to the fact that the auditorium floor is movable and mushrooms in the floor were impossible, a downward system of ventilation was designed with the supply air admitted through the main ceiling and deflected horizontally to prevent downward air currents, and the exhaust is removed through screens in the side walls near the floor, and through mushrooms under the seats in the balcony.

The art galleries on fourth floor have a separate supply and exhaust system of 41,000 and 28,800 C.F.M. respectively with separate fan type heaters for each gallery.

The boiler room, general basement, projection rooms, etc., each have their own supply and exhaust fan and the general toilets have separate exhaust fans.

The Veterans' Building has a total of 21 fan units.

A complete automatic system of Johnson temperature control is installed in both buildings.

An automatic sprinkler system has been installed for the stages in both buildings and the rooms directly pertaining thereto, and for the general basement in the Veterans' Building, all supplied from pressure tanks in the Opera House.

A chilled drinking water system serves all of the drinking fountains in both buildings and is operated by a refrigerating machine of the CO_2 type and of nearly four tons capacity.

The basement supply fan and the meeting rooms supply fan are provided with a Radi-Ion air purifying equipment.

The elevator installation in both buildings is the Spencer-Westinghouse type.

VICISSITUDES OF A YOUNG ARCHITECT*

by
ELMER GREY, F. A. I. A.

IN the hope that some of the experiences in connection with my early architectural practice and the events that followed may be of interest, and that an account of the one major pitfall into which I fell with a thump may serve to prevent others of like constitution and proclivities from encountering it, I write these memoirs.

It must have been in about my twenty-eighth year that I opened an office in Milwaukee. The epoch marking event frightened me. I had shortly before built a summer home for myself at Fox Point, a newly opened resort outside of Milwaukee, and it had taken all my available cash. So the idea of discarding a salary and starting out on my own initiative was terrifying. But the move was forced upon me by circumstances over which I had no control, so there was nothing to do but venture. I did not realize at the time that the spirit of enterprise within each of us and our own initiative when well chosen, sometimes bring rewards far beyond anything we may have hoped for them.

I had one job to start with, but what I was to do if others did not promptly follow worried me. The offices of my late employers were on the second floor of a three story building which had no elevator and I succeeded in getting some tailors who were on the third floor to move out and let me have their quarters. The idea was that if I did not continue to be busy I could then the more handily fall back upon doing work at odd times for my former employers.

Anxiety, was, however, entirely unnecessary. Part of the success which followed was due to the fact that my late employers had generously allowed the character of my work to become known before I left them. But that did not account for it all. My summer home had seemed like a sentimental, almost a foolish venture at the time it was undertaken. I was unmarried and for practical purposes did not require it. I built it because I could not resist the magic of its marvelous site. But the ways of Fate are devious and often kind, and what then seemed almost like a creature of youthful

ELMER GREY, *Architect*

PEN SKETCH OF SUMMER HOME OF ELMER GREY, FOX POINT, WISCONSIN
Elmer Grey, Architect

folly now turned out to be a veritable bonanza!

The house was situated on the edge of a bluff overlooking Lake Michigan. Below was a beautiful strip of meadow land with spreading elms scattered about and hedges intersecting that had been planted long ago. During the summer hay was gathered in these meadows, crows sounded their plaintive notes through the still air, and birds added melody. Beyond on the lake steamers and sailing craft plied slowly by.

Due largely to this marvelous situation, and also to the fact that the district was fast becoming a fashionable resort, the house made a great hit. It was published widely in magazines, was reproduced in color as an advertisement for building material, was the cause of my elevation to Fellowship in the American Institute of Architects, and last but not least brought me much additional work.

Customers passed the door of my former employers and climbed another flight of stairs to patronize me. They even paid me a higher commission for the privilege! I would not have had the nerve to ask it perhaps had not fortuitous circumstances come to my aid. I had long maintained while working as a draftsman that 5% was not enough to charge for residence work, that it required more time and hence should receive higher compensation. Now the opportunity came to put the idea in practice. I had two clients who had come to me at the same time to have summer homes planned. They did not at first ask my rates, but after we had gotten well under way one of them remarked, "Grey, Mariner and I came to you in a rather unbusinesslike way by not asking your commis-

sion, but I presume that for work of this character it is somewhat more than the usual rates!" It certainly was!—and with such encouragement it has continued to be ever since!

My very first commission was even more remarkable. The client was a coal merchant and after finishing his house I went up to call one evening. This was before I had raised my rates above 5%. His wife and I were seated in the living room and he was pacing the floor in front of us as though he had something on his mind. Suddenly he stopped and said, "Grey, my wife and I are much pleased with this house but we feel that you made one mistake." I inquired what it was. "Well," he said, "we don't think you charged us enough! . . . . We have talked it over and have decided that we don't want to live here year after year and feel that anyone who has had as much to do with it as you have was underpaid. We want to give you $150 in addition to your fee."

I thanked him.

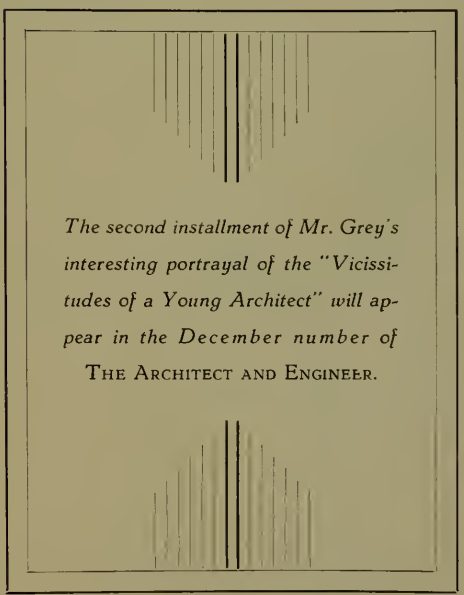
He continued, "But I want to give it to you in a way which I will not feel so much myself; so if you don't mind, I will send you $50 worth of winter coal tomorrow, and for the balance give you stock in my company." I told him that whichever way he wanted to do it would be quite satisfactory to me.

He never gave me any paper representing the stock in his company and as the months rolled by I had almost forgotten about it. Then one day he came in, walking rapidly, his eyes snapping and slapping me on the back exclaimed excitedly, "Grey, I've just sold out to a trust." I replied rather casually, "Is that so." "Yes, that's so," he continued, "and you'd better perk up because it affects you." "How so?" I asked. "Do you remember one time my giving you $100 worth of stock in my company?" "Yes." "Well, I sold that stock with the rest, and your share amounts to $216. Here's your check!"

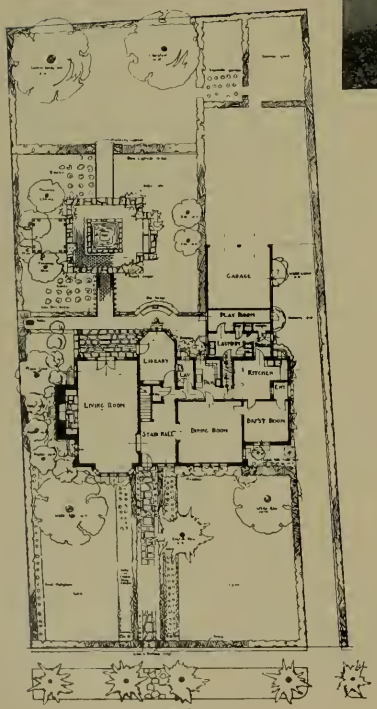
Following the above mentioned commission came several other jobs and I was apparently headed under full steam toward a brilliant and successful future. But all the time insidious influences were marking me for certain failure! I am unable now to be sure just what they all were, but I do know that along with several companions I supposed that very strenuous exercise in a gymnasium on top of mental work every day was a good thing. It may be for born athletes of stolid temperament and more rugged constitution; but I was born not so much for athletics as aesthetics, and probably needed more diverting recreation and milder physical exercise in the open air. At any rate without being conscious of it my health was slowly but surely being undermined.

Finally, I was given the commission to plan a good sized Christian Science church. The plans were just finished when my health broke down completely. My clients strove to help me, but I felt that I must get away from my work entirely and took a night train for Florida.

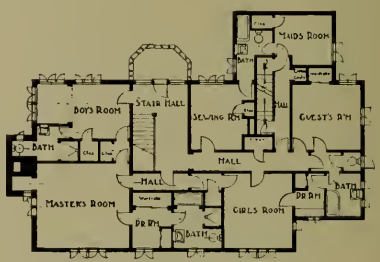
To make a short story of what then happened to my Milwaukee practice—my offices there have never been seen by me since!


The second installment of Mr. Grey's interesting portrayal of the "Vicissitudes of a Young Architect" will appear in the December number of
THE ARCHITECT AND ENGINEER.

RESIDENCE OF CHESTER WURSTER, LOS ANGELES
Henry C. Newton and Robert D. Murray, Architects



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PLANS, RESIDENCE OF MR. AND MRS.
CHESTER WURSTER, LOS ANGELES
Henry Carleton Newton and Robert Dennis Murray, Architects

GENUINENESS IN BUILDING

by
THADDEUS JOY
Architect

A PRECEDING article dwelt upon the sentimental aspect of building with materials that endure. The present argument is for truth and honesty in building.

The frame and stucco house, in the design and building of which, an appearance of great solidity is carried out in walls which might be pierced by a hat pin, is losing its popularity as we turn to the more honest practice of frankly expressing, in form, line, texture and color, the materials with which we build.

Most of us would prefer to be straightforward and sincere in our designing, but we know that our conscientious scruples would lead us to take up the gage of battle for our principles and break the long period of Architectural Peace. Also, it is necessary to admit that the stucco house is more cheery to look upon than our shingled house of twenty-five years ago. It possesses other practical advantages too, and, in spite of our wood built traditions, a deeper appeal is made by masonry forms than by those of wood. So we are led to the mimicry of masonry in order to delight ourselves with the appearance of solidity and durability at the comparatively low cost of wood construction and we wink at the deception involved as we realize the latitude of design permitted by what is little better than stage craft construction.

However, honesty of purpose need not be sacrificed even in the adaptation of forms and lines taken from other materials than those of which we build, as our own Colonial wood architecture can bear witness, where masonry forms are adapted to the material (wood) in which they are executed. The whimsical recall of a sturdier architecture is made without claiming for it a quality which it does not possess. These Colonial houses are sincerely and honestly wooden in character.

Our shingled houses of twenty-five or more years ago expressed genuinely their character, while in New York City and its environs the little old Dutch houses stand for what they are. A number of Dutch houses of wood are to be seen at intervals along the Neck Road in Gravesend.

There is a little house of white painted wood which stands in pleasing contrast to its nondescript neighbors on Russell Street, a few doors to the eastward of College Avenue in Berkeley, and, although its design is based on French tradition, it is well suited to our Berkeley soil and climate. The house looks into a secluded garden court which is enclosed on the street front by a garage and a studio separated by a deep archway leading into the court. The source of its inspiration is a masonary type, and the details are of wood in imitation of its prototype, but the house is obviously wood. No attempt to deceive here; only the adoption of forms peculiar to another material in captivating simulation of a type which the architect, Mr. Wurster evidently loved; a practice followed in much of the noblest architecture of all time.

The types referred to open a road to an extensive field for economical building suitable to all parts of our country, and, if we wish to go "modern", the field is no more limited in extent.

The cry of today is to express in your design the materials which you use. Let your building be genuine. Be honest without being narrow. If we wish to recall forms and details of other materials for reasons of sentiment may we not do so without shame, providing the product does not attempt to deceive, but proclaims itself for what it is? Let us take pride in our choice of material and glorify its limitations.

HOOVER DAM SERIES—FLOOD SCENE AT MOUTH OF PORTALS NOS. 2 AND 3

BY WM. WOOLLETT

AIR CONDITIONING AT A GLANCE

by
S. R. DOWS

The subject of air conditioning which is receiving so much attention just now is clothed in more mystery than warranted. Stripped of its outer garments of fine yarns we see just this—a control of temperature and humidity in properly circulated clean air!

Psychrometric charts, designed for the weather man, are full of data based on wet bulb and dry bulb readings. The engineer or architect, when writing specifications, is not interested in these things. He knows that the prevailing temperature which he must correct is a certain high or low figure. He knows that the weather bureau reports indicate certain data on relative humidity. With this information he sets about the job of designing and specifying.

The appended chart is a simple and direct solution of the problem and it is a problem which every person in the heating game, building game, or profession of engineering generally will have thrust at him during the coming year.

SALES engineers will gladly tell us all we care to know about equipment once we have decided what the problem consists of. Sales data will not always tell us clearly whether or not we must *humidify* or *de-humidify* the air and on that question hinges the distinction between the two great classes of air conditioning equipment.

The appended graph was developed to make the problem more obvious to the uninitiated and to make the solution more direct to the architect or engineer. Conditioned air is that which has been *cleaned*, and brought to a condition of temperature and relative humidity which lies within the "comfort zone". Unfortunately, *temperature* and *humidity* are very elusive when considered simultaneously, since any change in temperature effects a coincident change in humidity. Psychrometric charts were developed for the weather man rather than the air conditioner, hence they are cumbersome. The graph here presented is a direct solution of the problem at hand.

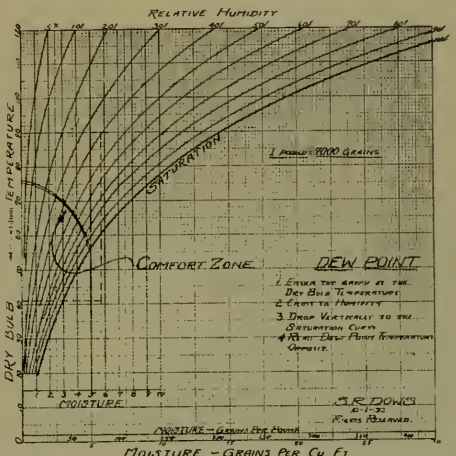


CHART GIVING SOLUTION OF AIR CONDITIONING PROBLEM PREPARED BY BY S. R. DOWS

The use of the graph is illustrated by a simile problem. Assume a temperature of 90 deg. and relative humidity of 10%. Cool this air to 70 deg. and we see from the graph that the relative humidity will then be nearly 20% which is helpful but the comfort zone is at 40%. The moisture in

the assumed air is 1.5 grains per cubic foot. The moisture at 70 deg. and 40% humidity is 3 grains and we must therefore add 1.5 grains of moisture per cubic foot of air which requires a *humidifier*. That is your specification and the salesman will gladly produce such a unit for you.

Now let us see what the condition would be if the 90 deg. temperature were accompanied by a relative humidity of 40%. Reducing the temperature to 70 deg. we find a humidity of 80% which is of course oppressive. We must therefore *de-humidify* by (a) absorbing nearly 3 grains of moisture from each cubic foot of air, or (b) refrigeration in which we lower the temperature of the air below the "dew point" and thus precipitate the excess moisture which will collect on the cooling unit in the form of frost. The desired quantity of moisture for 70 deg. and 40% humidity is roughly 3 grains per cubic foot. The "dew point" corresponding to 3 grains is 41 deg. and hence the refrigerating unit must be capable of lowering the air temperature to this low point. When the moisture has been removed, we must re-heat the air to the 70 deg. desired, so a heater must be included in the equipment.

This graph may be used in many ways when determining the specifications for a job. The architect or engineer must educate the client and the manufacturers simultaneously if he wishes to produce the design which he knows is best. With this graph as a tool, air conditioning is brought immediately to its essentials.

No attempt has been made here to discuss the relative merits of comfort zones. The most recent authorities seem to agree on the location as here represented. A solution may compromise in regions closely approximating the zone here shown without any fear of injury. However, the ideal lies within this region and should be closely adhered to.

RESIDENCE OF MR. WHITE, POINT LOMA, CALIFORNIA
Lincoln Rogers, Architect

ENGINEERING CONSTRUCTION

FACTORY PRODUCED FRAMELESS STEEL HOUSE

A FRAMELESS steel house which may ultimately point the way to cheaper and better homes is now nearing completion in Solon, Ohio, a Cleveland suburb. Engineers who have visited the house believe that the new frameless method of construction is a marked advance toward the factory production of low-cost homes. As the weight of the structure is carried by the walls, the erection of the conventional structural frame is unnecessary.

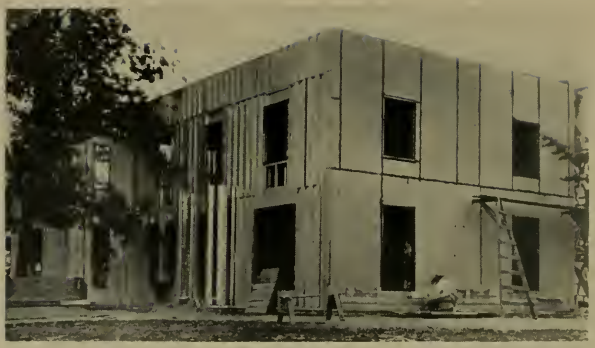
For centuries, houses have been built largely by hand. Materials are hauled to the building site in small units; men erect the house piece by piece from a multitude of small parts; there is much cutting and fitting; there are delays while one contractor waits on another. Even with the most skilled and conscientious workmen, waste abounds. The Department of Commerce estimates that 53% of the cost of building a house is wasted. Builders say it is the fault of the piece-meal system, and not the individual.

It is admitted that at least half of our population is improperly housed. Of our 30 million families, more than 15 million are renters chiefly because of the high cost of home building. On the average, the home owner spends 10% of his anticipated life's income for a home, exclusive of maintenance, interest, and taxes. A large majority of the 15 million families who pay rent to landlords have an income of less than $2000 per year. They cannot afford to own a home.

During the past twenty years the cost of dwellings has mounted, while the cost of most factory produced articles has consistently declined. Consider, for example, the automobile. The $500 car of today is better than the $1000 car of five years ago. The modern auto represents the best efforts of great technical staffs, extensive research laboratories, and efficient production. In contrast to the modern car, the average house is far more costly.

A large part of the frameless steel house is factory produced. There is no waste, nor field cutting nor fitting. The walls are made of 20 gage Armco steel sheets. Box-like corrugations, or channels, two inches deep by six inches wide, were pressed lengthwise in the sheets to give them strength and rigidity. After forming, these wall sheets are of four different standard widths. This provides a certain amount of flexibility in width adjustment when assembling walls. Further adjustment may be secured by telescoping the channels, in which case a hollow column is formed in the wall, providing extra strength.

The walls were assembled in large sections, room wide and story high, with win-



FRAMELESS STEEL HOUSE UNDER CONSTRUCTION

dow or door frames in place. The welding of the various pieces in a section is quickly done. The welds are approximately $\frac{3}{8}$" long, spaced about 12" apart, and require on the average five seconds time per weld. The completed wall weighs slightly more than two pounds per square foot. They were hauled to the job like stage scenery.

The floors are of 18 gage Armco steel. The individual floor sheets are formed longitudinally in the shape of a long "Z". These are lapped one over the other and welded together, forming a series of metal boxes which, though light in weight, possess great strength.

In erecting the house, the lower floor was completed first. Then the first story walls were set in place and welded to a foundation cap and the floor. The second floor was next completed, followed by the second story walls, the roof, and the parapet walls. As it was erected a floor at a time, no scaffolding nor extension ladders were necessary. The union of the steel floors and walls, which is accomplished by arc welding, gives the structure exceptional rigidity and strength. Only one welding outfit and two workmen were employed on the erection work. Seventeen tons of steel were required to form the "chassis".

The exterior of the house is heavily insulated against heat or cold, and is covered with porcelain enameled shingles. It will never require painting, and a bath with the garden hose will quickly restore its original luster. Other exteriors such as stucco or brick may be applied.

The interior of the wall will be finished with gypsum lath, on which two coats of plaster will be applied. The completed wall is less than four inches in thickness.

The ceiling will be finished with an acoustical tile cemented to the lower plane of the steel floor above which serves as a plaster base for the room below.

Laminated hardwood floors will be laid in the living quarters, while linoleum will be used in the kitchen and bath. These are fastened to the floor with an asphaltic mastic which serves as a sound deadener, a leveler, and an adhesive.

A four ply asphaltic roof will be applied over an insulating slab 2 inches in thickness. As the roof will also be the porch, thin pieces of slate will be imbedded in the asphalt to provide a walking surface.

Another interesting feature of this unusual house is the absence of screen doors. The glass in the exterior doors is operated with a crank like an automobile window. There is a roll screen in the top rail which is fastened to the upper edge of the glass. As the glass is lowered to ventilate the interior, the screen rolls down and prevents the entrance of insects.

On the roof a small solarium is located, and the remainder of the roof area furnishes a safe playground for small children, away from the dangers of automobile traffic. In the winter, the roof can be flooded and used as a skating rink.

The house is highly fire resistant. It contains no combustible material except the wood floors and furnishings. Moreover, it is rat and vermin proof, there being no place for rodents or insects to harbor.

A large percentage of the population is afflicted with an inherent fear of lightning. The frameless steel house is lightning proof. If struck with a bolt of lightning no harm would be done, as the house is in itself a conductor of electricity and damage from lightning occurs only where resistance is encountered.

Nor will radio reception be interfered with. An outside aerial will be used, with a lead cable leading into the house.

As steel is not subject to shrinkage, the usual cracking of plaster is eliminated.

This demonstration of the adaptability of sheet metal to low cost home construction is not aimed at producing a standardized house, but to perfect a new method of construction which can be used to reproduce almost any type of architecture. In the future the home owner may buy his house somewhat in the same manner as he selects his car today. At present, the home is too well entrenched in sentiment and tradition to attempt anything so revolutionary, and America would probably resent a movement to standardize houses. The Insulated Steel Company's method is so flexible it can be utilized to factory-produce the individual house. The architect can make his drawings according to the owner's desires, deliver his plans to the house factory, and supervise the work, as he does at present, with far less waste and inconvenience. If there is a demand for standardized houses, it can be used for that purpose. It is adaptable to the construction of apartment buildings up to four stories high.

Nor does the house under construction attempt to solve an aesthetic problem. What represents architectural beauty and splendid arrangement in the mind of one person may be repulsive to another. Beauty is judged by individual standards. The flat roof was selected because of its economy. It may be replaced with a gable roof at an additional cost.

The first edition of the frameless steel house contains seven rooms, two baths, and a double garage. There is a large recreation room, a boiler room and laundry, and other storage rooms in the basement. Produced without the aid of any specially designed machinery or handling equipment, and erected by workmen unskilled in the new technique, its cost is comparable to frame construction. Through the experience gained in its erection, many new ideas have been developed which will still further reduce housing costs and improve and simplify home construction. It will soon be possible to complete a home of average size in a few days' time.

The new frameless steel method of construction was developed by Mills G. Clark, former president of the Cleveland Real Estate Board. The house illustrated is being constructed by the Insulated Steel Company of Cleveland in cooperation with the American Rolling Mill Company of Middletown, Ohio.

OPERA HOUSE ACOUSTICS

(Continued from Page 44)

by reflections from hard interior surfaces so located that the path difference between the direct and reflected waves is not sufficient to cause interference. As already noted, the contours and mutual relations of all reflecting surfaces are so chosen as not to cause distinct focussing or echoes. In this way, the three major problems of architectural acoustics, namely, intensity, reverberation and echo, have been taken care of. The result has been to produce an auditorium in which there is well balanced distribution of sound throughout the entire house, with perfect clearness and distinctness, and without loss of quality.

BUILDING SURVEY & FORECAST

Pacific Coast Totals of Present and Prospective Building
For the Balance of 1932

States	Automotive		Apartment Buildings		Apartment Hotels		Banks		Clubs and Fraternal		Community and Memorial		Churches		Dwellings under $20,000		Dwellings $20,000 to $50,000		Dwellings over $50,000	
California	29	471,920	143	8,688,570			3	59,300	20	3,386,000	34	7,280,000	55	2,555,500	559	4,801,100	72	1,960,000	22	2,585,60
Arizona			3	71,500					3	83,500	1	6,000	1	9,000	31	231,800	8	150,950	1	57,50
Colorado	7	88,000	16	981,450			1	25,000	1	46,000	2	98,000	8	470,000	24	184,950	2	42,500		
Idaho	2	13,850	3	191,750					1	15,000			1	30,000	10	84,900	1	26,500		
Montana	1	14,000	1	130,000	1	240,000	1	35,000			1	180,000	3	230,000	16	124,000	4	115,750		
Nevada	1	18,000													8	62,000	1	30,000		
New Mexico	2	20,000	1	15,000					3	62,000			3	93,000	18	156,850	4	90,500		
Oregon	9	102,000	23	2,835,300	5	323,000	1	80,000	2	30,000	1	150,000	10	286,000	48	384,500	5	117,500	1	55,00
Utah	1	80,000	6	240,000					1	18,000	1	30,000	5	138,000	27	234,500	3	68,500		
Washington	14	765,500	17	990,000	5	1,200,000	1	80,000	4	90,000	1	250,000	15	716,000	133	1,018,150	11	265,000	3	190.00
Wyoming															23	152,000	1	21,500		
	66	1,573,270	213	14,143,570	11	1,763,000	7	279,300	35	3,730,500	41	7,994,000	101	4,527,500	897	7,424,750	112	2,888,700	27	2,888,10

Total projects reported by 511 Architects and Contractors—$189,551,325 to be spent on 2,355 present and prospective NEW buildings.

Pacific Coast Totals of Present and Prospective Modernizing Bu
For the Balance of 1932

California	6	42,000	29	211,750	4	40,000	3	30,000	1	5,000	3	515,000	9	31,800	55	336,900	6	37,750	3	140,00
Arizona	2	62,500	1	9,500					1	30,000			1	8,500	20	48,000	2	11,300		
Colorado	1	60,000	4	135,000									6	102,000	16	40,300	1	8,500		
Idaho	2	5,000							1	12,000					2	7,500	1	3,800		
Montana															5	6,800	1	3,500		
Nevada															2	4,150				
New Mexico									1	12,000			1	10,000	3	3,875	1	4,500		
Oregon			1	30,000			5	115,000							17	51,000	2	6,300	1	4,50
Utah			1	11,000	1	10,000	1	50,000							6	17,000	1	3,850		
Washington	3	228,000	3	75,000	1	3,000			1	20,000			1	4,000	23	76,000	3	13,100	1	4,80
Wyoming															4	8,500				
	14	397,500	39	472,260	6	53,000	9	195,000	5	79,000	3	515,000	18	156,300	153	600,025	18	92,600	5	149,30

Bold faced figures denote number of jobs.

Total projects reported by 511 Architects and Contractors—$8,497,925 to be spent on 614 present and prospective modernizing jobs. A grand total of 2,969 projects aggregating $198,049,250.

Note—The greater part of these schedules are immediately authorized and construction will proceed within the period covered on the balance. This also applies to the projects for modernizing.

of the ELEVEN WESTERN STATES

rojects as Reported by 511 Architects and Contractors
nd to July 1, 1933

Hotels	Hospitals and Institutions		Industrial		Office Buildings		Public Buildings		Schools and Colleges		Stores Retail and Dept.		Theaters		Welfare Buildings		Transportation	Miscellaneous	
9,225,700	38	7,947,000	22	6,956,000	40	10,880,280	39	8,525,000	92	20,273,600	168	2,743,480	23	3,484,000	1	25,000	6	12,973,000	64	38,924,000
	1	15,000					3	1,380,000			10	176,000							5	89,000
75,000	11	628,000	4	67,500	8	720,000	7	710,800	4	593,500	6	211,900	1	25,000	1	85,000			14	380,800
											3	51,000							3	8,850
200,000	1	100,000					1	50,000	3	345,000	5	115,500	1	50,000					28	85,875
							1	425,000												
85,000					2	550,000			3	818,000	6	93,500	2	430,000					3	11,900
2,876,000	4	410,000	7	174,000	1	260,000	2	587,500	8	350,500	19	293,000	1	30,000					12	136,200
125,000			2	21,850	4	648,000	4	618,000	3	235,000	9	152,500	1	20,000					5	14,200
700,000	5	575,000	2	31,000	6	208,500	2	750,000	15	1,526,000	22	397,000	1	40,000			1	30,000	18	504,500
	1	45,000									4	33,850							2	11,850
13,286,700	61	9,720,000	37	7,250,350	61	13,266,780	59	13,046,300	128	24,141,600	252	4,267,730	30	4,079,000	2	110,000	7	13,003,000	154	40,167,175

lding Projects as Reported by 511 Architects and Contractors
nd to July 1, 1933

321,000	8	130,000	8	104,000	13	403,500	2	767,000	6	117,500	82	720,200	23	397,000			1	75,000	29	499,000
	1	4,000	2	14,850					1	3,000	6	37,300							6	18,500
160,000			3	27,000	5	10,000	2	300,000	1	5,000	10	41,000							6	30,500
			1	6,500							3	8,700							4	5,300
42,000											5	19,850							2	7,300
			2	7,500							3	11,300							1	3,450
			3	19,500					1	300,000	6	17,500							1	2,800
33,300	1	100,000					1	150,000	3	102,500	11	39,750			1	1,000			9	31,000
11,000	1	68,000	2	7,800															5	16,400
29,000	3	5,700	2	30,000	3	222,000	1	50,000			16	200,000	1	1,000					8	20,300
			1	3,500			2	10,000			3	14,750							1	3,900
596,300	14	307,700	24	220,650	21	635,500	8	1,277,000	12	528,000	145	1,110,350	24	398,000	1	1,000	1	75,000	72	638,450

These figures have been checked with the survey recently completed by THE AMERICAN ARCHITECT, *and data of the U. S. Department of Commerce and the result clearly indicates them to be conservative.*

se figures are exclusive of all Federal work except that which has been given to private Architects in the area.

ARCHITECTURE AND FINANCE—TAX THE SURPLUS

by
WILLIAM LEE WOOLLETT
Architect

[Concluded from the September and October Numbers]

IN private life, the average home owner in times of idleness "fixes up the garden" metamorphically speaking. When the old man has a day off, he prunes the fig tree, mows the lawn and tidies up generally. Civilization as a whole should do likewise — in time of draught, dig the well; in time of panic, dig up savings and water the garden of unemployment.

If we required beautiful surroundings for everybody, if beauty were a necessity, we would have a natural and continuously increasing demand for the expenditure of money. The natives of Central America have no exacting requirements involving "taste," and therefore have no commerce. Our civilization of today is without the urge to create great works of art, we stagnate. We are impressed with the costliness of our homes, our furniture, which are in fact, cheap, dirt cheap, for no future generation will venerate them.

We live in a machine made atmosphere. We have no longing for the beautiful hand made things. Therefore, we rot. Why do we not value beauty as a practical necessity as did the Romans and make acqueducts and our bridges beautiful. We have no urge to do anything great except as we may contribute to a so-called practical purpose. And of course an "Interest" bearing security must be attached to each project.

Did you ever stop to think that of the billions of dollars worth of buildings and the millions invested in ornamental features on those buildings there is not today one bit of stone carving which a Greek of the time of Pericles would kick over with his foot, much less lift and place in a museum beside the Hermes of Praxiteles.

As to spending money for *unproductive* constructions as the Egyptian Civilization spent money on its monuments, No!—that would be the height of absurdity.

The Unearned Increment

Then what about the unearned increment in land values? People travel about in Fords. They settle on high priced land like flies on an over-ripe piece of meat. People flock to unhealthy, flashy, realty values in the gambling spirit. I sometimes think of the sound of coppers dropped into a tin savings bank. Every time a Ford comes up and over the divide into California, a penny drops into a number of savings bank. Moral—come in a Ford.

Millions of acres of land held by private interests, untilled and unproductive, should be taxed. The tendency would be for this land to come back into the public domain where it really belongs and where the individual small owner may have the opportunity to re-locate and improve. The difficulty is not so much with the theory of such taxation, but with the present ownership. The idea of confiscation is abhorent to our idea of property rights. To tax a bit of desert land, which some poor person has held for years, hoping for an increase of value or an opportunity to improve, to the extent that the owner is obliged to relinquish it, ap-

pears to be an injustice. And it is an injustice until such time as the owner can see the truth and himself ask for the application of the principle.

Therefore I suggest an examination of this whole question in the spirit of co-operation. During the ensuing years, the intelligent minds of the community should be encouraged to grind on the questions involved.

Let us keep in mind that wisdom must come from information and experience, that theory may be of little use without experience and the will to contact actual conditions.

The politicians and the statisticians, the professors, even our high school students, should be encouraged to discuss these problems. Actuated by high motives and controlled by correct principles, the examination of these questions can only result in a wiser generation. And the mass-consciousness functioning with the great human kindness like that which created the great Gothic era, to which we have referred elsewhere, will result perhaps in the humanizing of modern finance.

Mass Consciousness

The mass consciousness is necessary in order to carry any scheme of law and order into successful operation. We should be about our business of creating a mass-consciousness concerning these economic problems. These problems can be solved by the power behind the throne. What is the power behind the throne? It is the power of loving kindness. Human intelligence has reached a stage in its evolution where a co-operative interest must be intelligently fostered, for we all know that we are living a communal life, a communal life as wide and as complex as the world.

We are now assured by the passage of events that we are utterly dependent on each other. That larger intelligence which guides the *destines* of mankind must be first of all a co-operative thing, sensing more than all else the interdependence of all life.

To recapitulate, we sense the necessity to examine the motives behind present day attempts to provide through state, city, and government bonds, work for the jobless. We seem to see such bond issues as a method to capitalize debts for the benefit of both the wage earner and the owner of securities. But events persuade us that public improvement bonds will be paid actually through and by means of the purchasing power of the wage earner. Such nuisances as excess produce should be done away with by force of taxation. We seem to see and know that a new age is upon us — an age which requires each one to know the stop signals and a willingness to co-operate with others in obeying the signals. There is a stop signal on over-production. Who are observing this signal?

The Gambling Spirit

When public benefits like modern hospitals, schools, etc., are provided out of the public exchequer, these benefits constitute usually besides an original item of expense to the taxpayer, a contingent expense on account of maintenance. For a people to economize and attempt to balance the budget, is admirable. To assume for posterity disproportionate obligations, gambling on the ability to pay for present day necessities, is suicidal.

The expenditure of public money which has to be repaid through future taxation, is a doubtful operation. The expenditure of public money raised by means of a tax on surplus, is, on the other hand, defeasible, providing it does not entail coincident obligations for maintenance of improvements.

Industry should be given every opportunity to function unimpeded by the red tape of legislative restrictions, but industry should be informed coersively, if necessary, of the facts relating to over-production, and should be held responsible for committing the crime of over-production—gambling!

To advocate the continuous, regular, systematic expenditure of money collected as taxes on accumulated wealth in the hands of either individuals, estates, trusts, corporations, etc., in non-productive monuments and entailing no maintenance, is a perfectly sane proposition, for every civil-

ization from the beginning of time has used much of its surplus in this manner. Near Peking in the Valley of the Five Tombs, a space about the size of the San Fernando Valley, near Los Angeles, California, or a space ten times larger than the Island of Manhattan, is given over to a series of magnificent monuments, the whole place being *unproductive* — save to joy alone. The nobility of man, the divinity of his majestic sway on earth, are here spelled in letters which may be read by all men.

Compare this systematic use of the surplus for cultural purposes with the irregular, spasmodic dumping of commodities on a gutted market, willfully throwing away produce, the scrapping of automobiles, the dumping of milk in gutters, the burying of citrus fruit, the sinking of surplus ships.

Rodman says, "The governments of the earth rest on the patience of the poor."

Is there sufficient wisdom to bring about a sane solution for our economic ills? Is there sufficient sacrificial valor to enable the possible to come true?—"Blessed are the meek in spirit, for they shall inherit the earth."

International Debt

Regarding foreign reparations, international debt, moratoriums, etc.: Of what benefit is the present complicated matrix of antagonistically phrased debt structure? Would it not be better if each nation were on the basis of a balanced budget, and a reserve if possible?

If you send a boy to war, and he becomes one of the "Unknown Dead", does anyone arrange to capitalize HIS loss, issue bonds and collect interest? Under identical conditions is a dollar shot away, and do we capitalize the debt and hang the burden on posterity? Are these questions misleading and subversive? Are these questions, in fact, naive?

Is it entirely logical that war should be considered an investment rather than a loss? Do we all know that if surplus had been obliged to shoulder the expense of the World War, there would have been no war? Should the man in the street be amused when he gets into the same jackpot twice? Can the man in the street do anything to help himself, except to be part of a mass-consciousness?

Does community wealth come primarily from labor? Why should labor be required to stand under capitalized war debts guaranteeing the advances made by surplus? Are original investments in liberty bonds and like securities made from the savings of mankind, "from surplus?"

That the vast and complicated machinery of modern finance may not be taken by the tail and turned in the opposite direction is patent. But the direction in which we are going may be altered — should at least be known. Who knows and affirms any fundamental principles by which we may be guided? Are we going on to more debts and more complicated commitments in order to save or try to save vested interests? Are we pointed in the direction of liquidation? Are we committed forever to the principle of paying tomorrow, or shall we begin to pay today, by taxing the surplus?

If the world hasn't enough surplus with which to pay for a war, it would seem wise not to indulge in a war. War is a vast gamble. Why not accept the findings in the cards of financial resource as they lay at the beginning of the game, rather than at the end?

Combined with a Gothic gentleness and a love of mankind, Germany could have dominated the world. It remains for the world to learn the less on of peace.

Men who have not the capacity to examine without prejudice and with patience the problems of the day should not be tolerated in our legislative halls. We need wisdom, not war. How far is it true that "the governments of the earth rest on the patience of the poor?"

[The End]

RESIDENCE OF MR. AND MRS. MARTIN WHITE, SAN DIEGO
William H. Wheeler, Architect

« « « « With the Architects » » » »

PREDICTS BUILDING BOOM

H. J. Brunnier, C. E., with offices in the Sharon Building, San Francisco, says that unless present indications are very misleading, the San Francisco-Bay area will experience a building boom next spring unparalleled in recent years. He backs his prediction by citing Federal, state, county and city work in the bay city region, appropriations for which have already been made and actual construction authorized. The aggregate cost of this work runs into many millions of dollars. The Eastern building material houses and factories may well look to the Pacific Coast for their greatest volume of business in 1933.

OFFICE BUILDING

Martin J. Rist, Phelan Building, San Francisco, is completing plans for a three-story and basement Class C reinforced concrete and brick store and office building, to be erected on the northwest corner of Columbus Avenue and Green Street, San Francisco, at an estimated cost of $70,000. There will be six stores and two floors of offices for physicians and dentists. J. Capurro is the owner.

FACTORY WAREHOUSE

The Best Foods, Inc., 1900 Bryant Street, San Francisco, will erect a four-story reinforced concrete warehouse and a one-story concrete garage on its property on Bryant Street, near 18th, San Francisco, at a cost of $90,000. The plans were prepared in the office of K. Theill, structural engineer, 880 Market Street, San Francisco.

VETERANS' HOSPITAL

Bids are to be opened by the Federal Government, December 20th, for the erection of a group of hospital buildings at Fort Miley, San Francisco. The hospital is for the Veterans of the World War and will represent an expenditure of $1,500,000.

LOS ANGELES RESIDENCE

Robert B. Farquhar, architect, Security Building, Los Angeles, is preparing plans for a two-story brick residence to be built on South Carol Wood Drive, near Los Angeles, for Charles H. Quinn.

ARCHITECT FRACTURES ARM

A. M. Edelman of Los Angeles, has been a patient at the Cedars of Lebanon hospital, Los Angeles, suffering from a broken arm. Mr. Edelman was one of the delegates to the meeting of the State Association of California Architects at Del Monte. Stopping at San Francisco en route, he was leaving the hotel when he slipped on the wet pavement, and fell, his arm being broken at the shoulder.

PERSONAL

Ogden F. Beeman, architectural engineer, has moved from the Paulsen Building to the Washington Brick and Lime Building, 326 Pacific Avenue, Spokane. Mr. Beeman is conducting a night school class at the Y. M. C. A. for blue print reading and estimating.

William L. Bartholet, architectural designer of Seattle who has resided for the past year at Madison Park, has moved to an apartment house at 2328 Tenth Avenue, North.

Walter Kelly, architect, formerly in the Guardian Building, is now located in the Artisans Building, Portland, Oregon.

The golf championship of the Oregon State Chapter, A. I. A., was taken by Francis Jacoberger, McKay Building, Portland. Mr. Jacoberger defeated Roscoe Hemenway "three up and one to go" with a medal score of 82.

The firm of Edwards & Schary has dissolved, effective October 29th. H. A. Schary will conduct his business as architect at 605 Market Street, San Francisco, while Thos. M. Edwards is located in the Underwood Building, 525 Market Street, San Francisco.

N. Lester Troast, member of Washington Chapter, A. I. A., who makes his headquarters at Juneau, Alaska, has received high commendation for his design and supervision of the construction of the Wrangell Institute at Shoemaker Bay, Alaska.

Melville Dozier, Jr., for seven years manager of Southern California Chapter, Associated General Contractors of America, has terminated his work for that organization.

A. S. Nibecker, Jr., chief of the Los Angeles board of education's division of architecture, has been made a member of the national school committee of the American Institute of Architects.

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GROUP OF FACTORY BUILDINGS

The Engineering Department of the Standard Brands of California, a subsidiary of the Fleishmann Yeast Company, is preparing plans for a group of industrial buildings, including warehouse, factory and garage, to be built at Jones Avenue and San Leandro Boulevard, Oakland, early in 1933 at a cost of $750,000. The company's New York address is 595 Madison Avenue, New York City.

NEW RADIO STATION

A 300 foot steel tower for broadcasting purposes is to be built by the General Electric Company, east of Belmont in San Mateo County. Plans for the tower and a two-story reinforced concrete transmitter building have been prepared by H. J. Brunnier and a contract for the work has been awarded to Lindgren & Swinerton, Inc., of San Francisco.

STORE BUILDING

C. A. Meussdorffer, architect, Humboldt Bank Building, San Francisco, has completed plans for a one-story and basement Class C store building, to be erected on the south side of Fulton Street, west of Market, San Francisco, for A. W. Wilson. Mr. Meusdorffer states that he has prospects of considerable other commercial work in his office.

BOHEMIAN CLUB BUILDING

Plans have been completed in the office of Lewis P. Hobart, Crocker Building, San Francisco, for a five-story Class A club building to be erected on the northeast corner of Taylor and Post Streets, San Francisco, for the Bohemian Club. The structure will cost $800,000. Will P. Day is the structural engineer.

ARCHITECT NAMED

Benjamin J. Hirschfeld, architect of San Francisco, has been appointed construction engineer for the Merced Post Office Building. Hirschfeld was formerly in the office of Arthur Brown, Jr., and later he practiced for himself.

MARKET BUILDING

Plans are practically complete for a one-story and basement reinforced concrete market building with Lamella wood truss roof for Fred H. Morgan and associates. The building has been designed by William H. Weeks and will be built on Franklin Street, Oakland, at an estimated cost of $45,000.

FOR CLOSER CONTACT

To foster a closer relationship between architects, owners and manufacturers, a movement has been started by Los Angeles architects in a program which includes half day conferences with clients and building material manufacturers in the Architects Building Material Exhibit, Fifth and Figueroa Streets. Each architect will spend a half day a month in the display rooms, according to the present schedule, to confer with manufacturers, and to meet clients and show them the actual installation of the materials which he plans to specify. The first week's program included Roland E. Coate, Harold Chambers, H. Roy Kelley, Hibbard and Gerity, John Byers, Newton and Murray, Henry Withey, Paul Williams, Richard J. Neutra and R. M. Schindler. The schedule for the remainder of November includes Gordon B. Kaufmann, Reginald D. Johnson, Carlton Monroe Winslow, Witmer and Watson, Arthur Kelley and others.

ENGINEERS' ANNUAL

The Engineers Club of Los Angeles, held their annual meeting and election of officers October 21 in their new quarters in the Richfield Building, Los Angeles. Charles S. Howe was elected president; J. N. Kelman, senior vice-president; Norman Kelch, junior vice-president; E. R. Stauffacher, secretary, and Fred Garrison, treasurer.

POST OFFICE ADDITION

Plans have been approved for a four-story reinforced concrete addition to the San Francisco post office building. Drawings were made by George W. Kelham, architect, and H. J. Brunnier, structural engineer. The appropriation for the addition is $750,000.

INFIRMARY ADDITION

A two-story brick addition to the county infirmary at San Rafael, has been authorized by the supervisors of Marin County. Plans for the structure are being prepared in the office of S. Heiman, 605 Market Street, San Francisco.

TUBERCULAR SANITARIUM

Plans have been completed for a tubercular patients sanitarium on the county hospital grounds, San Luis Obispo.

PERSONAL

Leo F. Bachman has moved from 331 S. Western Avenue to 3142 Wilshire Boulevard, Los Angeles.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $27 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers.....$1.65 per ton
No. 4 rock, at bunkers..... 1.65 per ton
Elliott top gravel, at bnkrs. 1.75 per ton
Washed gravel, at bunkrs 1.75 per ton
Eliott top gravel, at bnkrs. 1.75 per ton
City gravel, at bunkers.... 1.40 per ton
River sand, at bunkers..... 1.50 per ton
Delivered bank sand..... 1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing.....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Damppproofing and Waterproofing—

Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $19.00 per M (average).
Common O.P. select, average, $22.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	50.00 per M
1x4 No. 2 flooring	42.00 per M
1x4 No. 3 flooring	36.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$32.00 per M
1x4 No. 3 flooring	30.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple.....$100.00 M ft.
1 1-16x2¼" T & G Maple..... 127.00 M ft.
⅞x3½ sq. edge Maple ..... 120.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	6-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$168 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$80 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $73 to $78 per ton cost of steel; average building, $77.00.

Steel Reinforcing—
$68.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.

Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

AN ALL ELECTRIC KITCHEN ON WHEELS

A MERCHANDISING plan that is to educate the American housewife to the appreciation of the 1933 "All-Electric Magic Kitchen" has been inaugurated by the General Electric Company, according to P. B. Zimmerman, manager of the General Electric Company's refrigeration department.

Coincidental with the announcement, Mr. Zimmerman stated that an order had been placed for a fleet of General Electric kitchen coaches. The G. E. kitchen coach, a proven sound merchandiser, is expected to materially augment sales of General Electric kitchens and other electrical appliances manufactured by the General Electric Company to lighten the work of the American housewife.

The new kitchen coach, with its modernly designed exterior, carries the model 1933 dream kitchen scientifically designed to lighten the work of the average housewife with electrical appliances so placed as to permit a maximum flow of work with an absolute minimum of effort.

The kitchen provides—first, the correct appliance for efficiently refrigerating food, the monitor top General Electric refrigerator, and an automatic General Electric hotpoint range in which to prepare the food.

All working surfaces in the new coach and food mixing devices are placed in position with relation to the electric refrigerator and the range to the end that the minimum amount of effort is required to prepare a complete meal. Kitchen cabinets in the coach are built under, over and to the side of working surfaces and appliances in such a manner that they provide storage facilities within easy reach.

1933 "DREAM KITCHEN" ON WHEELS

The General Electric dishwasher, an innovation in Monel metal working surfaces, is an integral part of the sink and is so situated that the washed and dried dishes may be placed in their cabinets with ease.

This 1933 dream kitchen "on wheels" is an example of perfect kitchen illumination. Through the facilities of the largest lighting research laboratory in the world, namely, Nela Park, Cleveland, Ohio, the General Electric Company has

provided for the sales coach and our future kitchens, a new system of brilliant lighting without glare. The new system, known as Soffit lighting, is of such a nature that the entire ceiling, walls, working surfaces and floors of the kitchen are flooded with light yet there is a marked absence of shadows.

The kitchen coach, according to some of the nation's foremost economists who were called in to consultation when it was designed, is expected to make unusual strides in educating the American housewife to the appreciation of a scientifically designed and electrically equipped kitchen as an important part of the modern home of today.

In addition to the appliances already mentioned, the kitchen coach carries a Monel metal sink, an electric exhaust fan, an electric clock, toaster, percolator, waffle iron, flat plate ironer, washing machine, radio, sun lamp, vacuum cleaner and other small table appliances. The coaches will be equipped, also, with planning desks.

Before the order for this fleet of General Electric kitchen coaches was placed, the first such coach was sent into the field and used by distributors for six months as a test. This test proved so successful and brought such a tremendous increase in sales of complete G. E. kitchens, refrigerators and ranges and other kitchen appliances, that distributors and dealers in all parts of the nation demanded this travelling display as standard sales equipment.

During the six months test period, more than 100,000 persons passed through the display coach and thousands of fine prospects were obtained.

"The display coach aroused unusual interest in every city, town and hamlet we visited," declared the operators. "It gained an unusual amount of publicity and proved a tremendously powerful advertising medium for the dealer, distributor or utility wherever we were."

So definite is the trend to modernize the American kitchen with fully automatic electrical appliances that at the present writing the General Electrical Kitchen Institute in Chicago is literally swamped with sketches of present kitchens for redesigning. This planning service is made available to the public.

General Electric kitchens have been accorded the utmost confidence of American bankers to the extent that a most liberal finance plan is now available. A kitchen coach, similar to the one shown in the photograph, will be demonstrated by the L. H. Bennett Company, northern California distributors for General Electric refrigerators and household equipment. The kitchen will operate in San Francisco and contiguous territory from the San Francisco offices of L. H. Bennett Co., Stockton at Sutter Streets. The George H. Belsey Co., southern California distributors, will also operate a kitchen from Los Angeles to cover their respective territory.

General Electric Offers A New Service to Architects

One of the serious problems, in planning a home to the full satisfaction of a client, is probably the kitchen. Appreciating this and wishing to co-operate with architects and builders, we are now able to offer thru the General Electric Kitchen Institute, a new and complete planning service to assimilate ideas, of families building or remodeling, into a completely modern, efficient and harmonized kitchen layout. This service, of course, is in full co-operation with the architect and contractor.

For a new home the plan may be carried out immediately. For remodeling, the plan is a goal to work to, by adding one appliance after another, as means permit, until the kitchen is complete, as originally planned, with, of course, General Electric appliances thruout. The method of promoting and merchandising this idea to the public will be thru the use of a new General Electric sales coach, a modern electric kitchen on wheels. You will have an opportunity to see this beautiful demonstrator soon. Watch for invitation.

The GENERAL ELECTRIC KITCHEN

L. H. BENNETT COMPANY, LTD.
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SAN FRANCISCO

NORTHERN CALIFORNIA DISTRIBUTOR
G. E. REFRIGERATORS, HOTPOINT RANGES

G. E. HOME APPLIANCE STORES
S. F., OAKLAND, SACRAMENTO, SAN JOSE

BIG HARDWOOD FLOOR CONTRACT

Cellized wood floor tile, manufactured by the E. L. Bruce Company of Memphis, Tennessee, is being installed in the United States Post Office at Chicago, Illinois. This order is one of the largest ever placed for one type of hardwood flooring to be installed in any one building. Approximately 2,000,000 square feet of unit wood blocks will be used.

The colossal effect of this one order may be realized upon reading the following statistical data, supplied by the Geo. H. Brown Hardware Company of Oakland, distributors of Cellized wood floor tile in Northern California. Imagine 15,540 man-days being required for the manufacture of this single order. This is, as near as it can possibly be figured, the number required and that only for the manufacture complete and ready for shipment. There are an additional 4,350 man-days required for loading, shipping by rail and application, including sanding and finishing of the material.

In explanation of these figures we sketch the following departments of the manufacturing procedure: cutting the timber, hauling from the forest to the log spur track, hauling from this point by rail to the mill, manufacture into lumber, yard storage and kiln-drying, manufacture into flooring, and lastly, manufacture into blocks. The wood must first be turned into the regular strip type flooring before it is fabricated with the steel spline and cut to the size block desired. Even the man-hours required for mining and manufacture of the small steel splines, with which these blocks are fabricated, are included in the above figures. They are still tremendous, coming to a total of 19,890 man-hours. The majority of this order requires a maple block of heavy thickness manufactured for use in areas where there will be much traffic. The entire order will amount to approximately 125 carloads.

Cellized wood floor tile which meets the Government specifications for "Unit Wood Blocks", in every detail, is an achievement of the E. L. Bruce Company, developed through the most exhaustive research, supplemented by over five years of practical and successful experience.

It will undoubtedly be of interest to Pacific Coast architects to know that many carload shipments of this flooring have been used in San Francisco and Oakland, Portland, Oregon, Seattle, Washington, Los Angeles and other smaller cities on the Coast.

Some of the above installations have contained from 46,000 to 60,000 feet per building.

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« « « « Society and Club News » » » »

OREGON CHAPTER, A. I. A.

The October meeting was held in the office of A. E. Doyle and Associates, Portland, Oregon, those present being Messrs. Doty, Whitney, DeYoung, Sundeleaf, Herzog, Aandahl, Brookman, Parker, Knighton, Howell, Forrest, Jacobberger and Crowell.

Linn Forrest, recent holder of the Ion Lewis Scholarship in Architecture, gave a screen talk on his experiences and impressions in Europe, covering the ground from Sicilly to Finland, and showing a collection of photographs, water colors, and pen and ink sketches.

The meeting was called to order by President Doty. In the absences of Chairman Bean of the Building Laws Committee, Mr. Howell reported that considerable progress had been made, working with a similar committee from the Registered Architects of Oregon, in formulating a State Building Code.

Chairman Parker, of Public Works Committee, reported that there is considerable activity evident by those sponsoring a public market on the River front, and as requested by the Executive Committee, he and Mr. Herzog had looked into the relationship and conformity of the proposed site to the Bartholomew Plan. Mr. Herzog reported he had examined the text and maps of Bartholomew's report and was convinced that Bartholomew was opposed to the site east of Front Street, although he made no direct statement to that effect.

A general discussion followed, during which the Chapter's letter to the Mayor and Council, dated February 19, 1930, was read and further correspondence between Mr. Doty and the Commissioners of April, 1932, was quoted.

It was moved by Mr. Herzog that the Public Works Committee, and the City and Regional Planning Committee be instructed to formulate suitable resolutions objecting to the market being located east of Front Street, same to be submitted to the Executive Committee which shall have the power to act. The motion was seconded by Mr. Knighton and passed without a dissenting vote.

The meeting then adjourned to the draughting room where light refreshments were served.—W.H.C.

WASHINGTON STATE CHAPTER

Four business items and a water-color exhibit with lecture by a university student comprised the program at a busy session of the Washington State Chapter, A. I. A., held at the New Washington Hotel, Seattle, on Thursday evening, October 6. President J. Lister Holmes of Seattle presided. Twenty members were present.

Kenneth Anderson and Perry Johanson, students in architecture at the University of Washington, who spent the past summer traveling in Europe on a Fontainebleau scholarship, were special guests. Mr. Anderson exhibited 100 water-color sketches made during the trip, and related some amusing, as well as interesting incidents.

Directors of the Washington Architects Inc. reported progress on the application for retainers with the U. S. Treasury Department at Washington, D. C.

The structural service committee made a report on the advisability of requiring a bond for guaranteed roofing. The Chapter is consulting William Gaines, superintendent of the Seattle city building department, on making arrangements for return of plans filed with the department pending the granting of permits.

SOUTHERN CALIFORNIA CHAPTER

Members of the Southern California Chapter, American Institute of Architects, inspected the new Los Angeles county hospital building on October 11. The tour of inspection was followed by the regular monthly meeting of the Chapter.

Robert H. Orr, who was elected president of the State Association of California Architects at Del Monte, made a brief report on the convention.

Notice was given of a meeting of the Producers' Council at the Engineers' Club in the Richfield Oil Company building on October 28.

A resolution was adopted extending the sympathy of the Chapter to A. M. Edelman who sustained a fracture of his right shoulder while in San Francisco.

A paper on quantity survey was read by C. S. Weeks.

Gordon B. Kaufmann, president of the Chapter, spoke on the new hospital as being an outstanding building, from both an architectural and construction standpoint, and congratulated the architects on their achievement.

PROVISIONAL CERTIFICATES

At a special meeting of the State Board of Architectural Examiners, Northern District, held on October 25, a Provisional Certificate was granted to David Hull Horn, 3016 Bateman Street, Berkeley.

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STATE ASSOCIATION

The unification plan whereby state societies may become affiliated or corporate members of the American Institute of Architects, was approved by the State Association of California Architects at the annual convention held at Del Monte October 7 and 8. The Association voted to become a "corporate member" and the executive board was instructed to begin negotiations with the Institute to acquire such membership. It is possible that action on the application for membership may be taken by the executive board of the Institute at its November meeting but if not, the matter will go over to the next meeting of the board which will be held probably in April, 1933.

Robert H. Orr of Los Angeles, was elected president of the State Association for the coming year. Harris C. Allen of San Francisco, was elected first vice-president; Louis J. Gill, San Diego, second vice-president. Ellsworth E. Johnson, San Francisco, secretary; Lester H. Hibbard, Los Angeles, assistant secretary; William I. Garren, San Francisco, treasurer; Harold E. Burket, Ventura, assistant treasurer.

The 1933 convention probably will be held in Santa Barbara.

PRODUCERS COUNCIL LUNCHEON

Fifty-four architects and members of the Producer's Council Club met together for luncheon in the San Francisco Chamber of Commerce rooms on Monday, October 17th, G. R. Kingsland, governor of the Council, presiding, L. W. Whitton, sales engineer of the Otis Elevator Company, gave a very interesting educational talk on "Today's Problems in Vertical Transportation". He enlarged upon modernization, requirements of good elevator service, adequacy for traffic handling and selection of proper elevator equipment. Lantern slides, followed by motion pictures, showing the arrangements and the handling of the traffic in the Le-High-Starrett Freight Terminal Building in New York, were a very interesting part of his address. The architects, as well as the members of the club, manifested keen interest in the subject.

WASHINGTON STATE SOCIETY

General discussion of plans for the coming year's activities occupied the attention of the first fall meeting of the Washington State Society of Architects October 13 at the Moore Hotel, Second Avenue and Virginia Street, Seattle. President John S. Hudson had charge of the session. O. F. Nelson temporarily resumed his secretarial duties until a successor could be elected to succeed Lawrence Hauser, who is going to Kodiak Island and Southwestern Alaska.

UNIVERSITY OF WASHINGTON

One hundred students are registered as majors in the Department of Architecture of the University of Washington for 1932-33 semester. Harlan Thomas, senior member of the firm of Thomas, Grainger and Thomas, continues as head of the department. Other full-time faculty members are: Lance E. Gowen, design; Lionel H. Pries, formerly of San Francisco, design; Henry Olchewsky, design; Charles W. May, engineering; S. I. Sergev, engineering; Raymond L. Hill, watercolors and sketches; Dudley Pratt, sculpture and modeling. Part time instructors are: Charles H. Alden, specifications and office practice; Merlin Hauan, plumbing and sanitation.

ARCHITECTURE ON THE AIR

An interesting talk on the profession of architecture was broadcast over KPO, San Francisco, and KMTR, Los Angeles, on October 24, by Professor Warren C. Perry, director of the School of Architecture, University of California.

Professor Perry has been actively engaged in professional practice in San Francisco for the past twenty years, has won many prizes for his architectural designs, and has been a member of the University faculty for more than fifteen years.

Describing the profession of architecture as it actually exists today, Professor Perry outlined the various phases of the vocation in its relation to conditions of life, its aesthetic side, its place in the economic scheme, and the ethics governing the best practice.

LOS ANGELES FEDERAL BUILDING

Plans for the new Federal office building in Los Angeles, prepared by John C. Austin, Frederic M. Ashley, John Parkinson and Donald B. Parkinson of Los Angeles, provide for a steel skeleton structure with eleven stories above ground on the site of the present Federal building in the Civic Center. The architectural treatment will be on modern lines, harmonizing with the other buildings in the Civic Center. The exterior will be faced with granite and terra cotta. Additional land purchased by the government gives a ground plot with 400 ft. frontage on Temple Street and 525 ft. north along Spring Street. The new building, which will be known as the U. S. Postoffice and Courthouse, is planned to meet the needs of future expansion. There will be eight court rooms on the second and third floors and quarters for various government departments will be provided on the floors above. The estimated cost of the building is about $6,500,000.

SALES MANAGER RESIGNS

Morgan P. Ellis has announced his resignation as general sales manager of Steel and Tubes, Inc. No announcement of future plans has been made as yet.

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A NOTABLE INSTALLATION

The architects of the San Francisco War Memorial are to be commended for the manner in which they have planned the stage and orchestra lift equipment in the Opera House. The installation is unique and outstanding for its completeness.

The orchestra lift consists of one electric elevator in four individual sections in the main orchestra pit, that may be raised and lowered independently or together to four fixed levels or other intermediate stops. The mechanism for their operation is so timed as to permit synchronized elevation or descension. It is intended at times to raise this lift in its entirety to the stage level to give greater area to the stage for classic productions.

Four additional auxiliary orchestra elevators are provided in space normally occupied by two first rows of seats, and are arranged to serve different levels with view of increasing the size of space required for augmented orchestration.

The stage presents an interesting arrangement, having upon it four scenery bridges, each 4½ feet wide, 52 feet long, parallel to the proscenium opening. By the mere pressure of a push button, these bridges may be moved independently, or in synchronized groups, above or below the stage level; the object being to create steps and other scenic effects. When desirable to have these bridges form a level below the stage, provision has been made to draw mechanically, toward the center of stage, a train of sectional floor sliders reposing on guides in concealed pockets on either side of the stage proper, thus forming a floor upon stage in the space left by lowering of the respective bridges. These sections are returned to their pockets when bridges are to resume travel up to or above the stage level. The operation is accomplished by the momentary pressure of a push button, and is entirely free of disconnecting or other time losing features.

All operating mechanism for orchestra and auxiliary elevators, the stage bridges and sectional floor trains are directed from a push button station located upon the stage adjacent to proscenium opening. The orchestra lifts are additionally provided with control from two of their sections.

Twenty-nine stage traps, comprising an area of 1,350 square feet, form part of the stage floor and are situated directly behind the stage bridges. These traps consist of guided platforms which can be raised to various heights up to 17 feet above the stage level. Another feature of these traps is that the platforms may be inclined to various angles while in raised position, thus

allowing unlimited means of creating additional scenic effects.

A storage vault at the extreme rear of the stage contains racks for curtains, scenery, et cetera. When a curtain or drop is not to be used for an indefinite period, it is lowered from its position, rolled up and placed upon a 75 foot long, screw driven, drop storage elevator. Push button control is the means provided for starting and stopping the lift at the desired rack.

The orchestra lifts, scenery bridges, sliders and drop storage elevator were furnished and installed by the Elevator Supplies Co., Inc.

GEORGE PEDGRIFT

George Pedgrift, widely known contracting plasterer in Southern California, died at his home, 1852 W. Forty-second Place, Los Angeles, October 15, after an illness of three weeks. Mr. Pedgrift had been active in association affairs for many years and was president of the Contracting Plasterers' Association at the time of his death, his last tenure of the office having covered a period of about four years. For the last few years he had not been active in business, devoting his time to private property interests.

TWO COMPANIES MERGE

Summerbell Truss Company and the Trussless Roof Company of California have merged under the corporate name of Summerbell Roof Structures.

The new corporation is located at 754 E. Twenty-ninth Street, Los Angeles, with branch offices in Phoenix, San Diego, Oakland, Portland and Seattle.

GYMNASIUM AND RESIDENCE

George Wellington Stoddard, Orpheum Building, Seattle, is busy on several projects which include a new gymnasium for the Moran Junior College on Bainbridge Island, and the addition to the E. M. Brennan residence at Woodway Park.

CLUB BUILDING

Miss Julia Morgan, architect in the Merchants Exchange Building, San Francisco, is preparing plans for a one-story frame and stucco club building at San Luis Obispo for the Monday Club of that city.

SAN JOSE THEATER

Plans have been completed for a $20,000 frame theater at Willow Glen, a suburb of San Jose, for the Hester Theater Corporation of San Jose. Binder & Curtis are the architects.

THEATER ALTERATIONS

Bakewell & Weihe, architects, 251 Kearny Street, San Francisco, have awarded a contract for alterations to the interior of the Little Theater at 960 Bush Street, San Francisco.

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CONTRACTING—A VERSATILE BUSINESS

"The most versatile of all business is contracting. Certainly the most fascinating and far reaching. There is no repetition, no duplication, and no imitation, try as we may. No two jobs were ever done exactly alike, even though both were from the same plan and specifications. Jobs may be similar but never alike. So that in the business of contracting we must find versatile men, men of imagination and vision, and men of experience," said B. F. Meinecke, contractor of Fargo, North Dakota, in an address at the recent meeting of the Associated Contractors of North Dakota.

"The natural contractor is not made, he is born that way. He is born under a lucky star, and rocked in the cradle of optimism, reared under benign influences of a wonderful growing world, and taught in the arts and crafts of a generous nation till he arrives at maturity to blossom forth as a contractor.

"Up to this time, certainly, there have been none but enervating and elevating influences surrounding him of the nature and kind which have helped to shape his future destiny. Indeed all his surroundings which have worked on him, have had an influence for good, have imparted knowledge and experience and have fitted him for his struggle of the future. All his life he has been taught to view the future with a friendly eye, and to look upon what is ahead with a spirit of optimism. His entire make-up is fashioned along these lines, and it is safe to say that ninety-nine out of every hundred contractors are optimists — at least up to the time they land a job. Really, I cannot see how anyone can follow contracting successfully unless he carries this same spirit right through his entire organization, because if a job once starts going wrong, and a fellow starts sliding, all the skids will be well greased for the occasion.

"When the old age-worn question is now asked of us, 'How's business,' it will not require a modern philosopher, who is quick on the trigger to say 'it's rotten,' rather may we not readily reply in the spirit of optimism, 'it's not so bad.' It may not be brisk, but any business which we may have at all, certainly could be called 'good,' and leave a pleasant taste in our own mouth afterwards.

"There is absolutely nothing to be gained in talking down-heartedly or in spreading the spirit of gloom, because gloom leads to despair and despair to annihilation.

"Now let us see if we can find in contracting perhaps some of the excuses or reasons responsible

for our present state of depression. Is it not possible that we as contractors may have contributed our share, and rather liberally at that, towards our present situation? It may be a long story to clearly trace this, and we may be at fault in our deductions, but we are going to present them not as our individual views alone, but as the views of men vitally interested in contracting.

"During well regulated and so-called prosperous periods, when general business is at its best, and all industries are operating on an over-time basis, producing goods beyond the normal consumption, the contractor has his inning. He secures his contracts, in common with the accepted usages, at a price for all the traffic will bear. This does not seem to any of us to be unfair and unjust, in the trend of modern business. What happens? To many there appears to be no end to such bounty, and in our greed for business we go the limit. By limit, I mean, permitting everything all the way down the line to be done which has a definite tendency to increase costs to such a point that it becomes impossible and confiscatory, and people will openly rebel against high costs and refuse to build. Investment banks or bonding houses withdraw their support and our whole structure of contracting must tumble and deflate till we all get back to fundamentals. These terribly inflated construction wage schedules must come back to normalcy and labor must accept its share of the burden of correction.

"Other evils must be divorced from the construction industry, and we all must get back to fundamentals if we are going to obtain a speedy return to normalcy.

"I shall be criticized by men of our fraternity for many of my remarks. I expect that, I only ask that those who disagree weigh these matters in the scale of their consciences before condemning.

"There is no industry which reacts so quickly to any outside interference as contracting. There is only one other industry which is larger than contracting in all its ramifications, and naturally a very large proportion of our population is dependent on it for a livelihood. In a large portion of the country, especially this northwest section it is seasonal, and though it can be done, many classes of winter construction are expensive in spite of the fact that perhaps cheaper labor may be had.

"Any figures that may be obtained, however, at this particular stage should not be regarded as a criterion of prevailing prices. Especially during periods of stagnation or depression, many prices are made simply for the purpose of maintaining organizations together, and many a contractor figures work dangerously low, depending on volume of business and on buying powers to

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make his profit. This is deplorable, as every man should be worthy of his hire, and every sub-contractor should be permitted to make a profit.

"This depression, if we want to grace it by that name, must come to an end, as they all have in the past, and while we are not saying that prosperity is just around the corner, we most certainly believe it is. We are going to tell everybody this at any rate, and we are going to radiate it and live it and talk it in our own way. And we hope and trust it may become contagious and keep on spreading from Minot to Fargo, and Fargo to Minneapolis and on to Chicago and New York, and Miami and New Orleans, and Seattle and San Francisco, and that the spirits of optimism will again prevail, and that the clouds of despair may be pushed out of the way to reveal their silver lining.

"We can make anything come true if we sincerely want it, and if we all live it, and all go after it at the same time, and everything we do be done for the purpose of obtaining our goal.

"Believe me, we have the best ally in the world to help us, in our good friend Uncle Sam, and while we do not believe it is possible to legislate prosperity, yet we do believe that an all-powerful influence brought to bear on this particular industry by the United States in numerous construction activities, is going to have a mighty stimulating and stabilizing effect, and is going to help carry a lot of people through the present crisis.

"People would be wise to choose the present time to make alterations, changes or additions, as work is being done at a reduction of fully 25 per cent below the peak prices of several years ago."

SCREENS FOR BOMBING BASE

Bates-Carpenter Co., distributors of building materials, with headquarters at 557 Market Street, San Francisco, have been awarded the contract for the screens for the first unit of the U. S. Army bombing base now under construction at Hamilton Field, Marin county. These screens are all of tubular metal construction.

STORE BUILDING CONTRACT

H. A. Minton, architect, 525 Market Street, San Francisco, has awarded a contract for $8,100 for the construction of a one-story reinforced concrete store building at Palo Alto for the Capitol Company.

STORE ALTERATIONS

Claude B. Barton, architect of Oakland, has prepared plans for extensive alterations to a two-story store building on 20th Street, Oakland, for the Ruud Heater Company.

ARCHITECTURAL CRITICISM

By HENRY S. CHURCHILL *in Pencil Points*

Architectural criticism has been, as Mr. Anderson pointed out, mostly by specialists in other fields. Taine turned architecture into history, as Ruskin turned it into ethics and as Mr. Mumford turns it into sociology. Every specialist interprets an art into terms and service of his specialty. But the reverse is also true if not so commonplace, and that is that with the collapse of architecture as an art the architects have been trying to turn sociology into architecture, engineering into architecture, business into architecture. Now this is perfectly legitimate, but it isn't, wasn't, and won't be *architecture* in the great historic sense of the word.

IN NEW QUARTERS

The Alta Electric & Mechanical Equipment Company, Inc., has moved into new quarters at 467 O'Farrell Street, San Francisco. Executive offices and drafting room are on the second floor. This firm recently completed a contract for all the electrical work for the War Memorial group in the San Francisco Civic Center, including the electrical stage equipment in the Opera House. The next big contract to be undertaken by this firm will be the electrical work on the Golden Gate Bridge.

BOOKLET ON WINDOWS

Curtis Companies of Clinton, Iowa, through their Service Bureau, have recently issued a very interesting booklet describing in detail their new Silentite pre-fit windows. This booklet, although written and illustrated in a somewhat humorous vein, is most informative and delves into the history of window covering a period of 3300 years. It is suggested that this data is of decided value to every architect and builder. Copies may be obtained from the home office of the company on request.

CITY PLANNING CONFERENCE

The twenty-fourth National Conference on City Planning will be held in Pittsburg, Pa., November 14, 15, and 16. The Buhl Foundation, of Pittsburgh, and the civic organizations interested in planning, are sponsoring the invitation to the Conference.

There will be a most determined effort in the program to make a frontal attack on the mistaken municipal economy which has in many instances crippled, or entirely eliminated the local planning programs.

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DAMS IN CALIFORNIA

By EDWARD HYATT, *State Engineer*

The Department of Public Works, through the State Engineer, has been charged since 1929 with the responsibility of approval of plans and supervision of construction and maintenance of all dams in California above a minimum size. At the present time and during the last year the main activity in the building of new dams has been in Southern California.

Including dams which will soon be started, dams under construction and dams recently completed, there will be added to the water storage in Southern California about 387,000 acre-feet at an approximate cost of $31,904,000.

Before construction of a dam can be started, plans and specifications must be approved by the State Engineer, who also supervises construction from start to finish, and when the structure is completed, issues a certificate of approval, certifying that the dam is safe. The tendency in dam building is to design higher structures of greater storage capacity, which results in greater potential menace than was the case a decade ago when smaller dams were the rule.

The responsibility resting upon the state office in approving the design and supervising construction of new dams as well as passing upon those already built is very great, as it may result in increasing the cost to the owners in large amounts, and may even cause abandonment of a dam on which much money has been expended; but more important it means that the state office must undertake the grave duty of assuring people living below a dam and the public generally that all reasonable safeguards have been observed in its construction and that lives and property will not be jeopardized thereby.

The great dam building program under way in Southern California may be called a three-phase plan. First, it will conserve a vital natural resource; second it will protect lives and property from destructive floods; and third it will materially help the critical unemployment problem by putting many thousands of men to work on necessary public improvements. In reviewing applications and plans for dams which require large expenditures and employment of many men the state office has cooperated with the owners to clear the way for construction at the earliest date possible in order to reach the unemployment problem quickly and effectively.

Water is the first consideration in the economic development and continued prosperity of Southern California. This section of the State with a population of two and one-quarter million people, comprises ten per cent of the irrigable area of the entire state and fifty per cent of the state's popu-

lation. The water resources of Southern California are only 1.4 per cent of the total resources of the state and if wholly conserved are insufficient to fully meet future requirements without development of water from other sources. The control and conservation of the surface flow of Southern California streams are imperative to meet the ever increasing demands for municipal purposes, irrigation uses and to afford protection against recurring devastating floods.

Four major dams have been completed in Southern California within the last year, and applications for six have been recently approved and construction is either under way or is expected to start soon. Several are for the dual purpose of flood control and conservation; others are primarily for conservation with small flood control value.

Plans for San Gabriel No. 1 dam have just been approved. This is the largest dam to be built by the Los Angeles County Flood Control District, and will be located in San Gabriel Canyon about two miles below the Forks. It will cost about ten million dollars and be the largest rockfill dam in the world, containing about five million cubic yards of rock. (The largest rockfill dam at present is also in California—the Salt Springs dam of the Pacific Gas and Electric Company.)

REGISTERED CONTRACTORS

Colonel Carlos W. Huntington, registrar of contractors, announces publication of the new 1932-33 official list of registered contractors.

The book contains not only the official list of licensed contractors in California, but a reprint of the contractor's license law and a brief discussion of the functions of the contractors division of the State Department of Professional and Vocational Standards. It also contains important information concerning the various state laws regulating contractors, which is of vital interest to all those closely allied to the construction industry.

The directory will be supplemented at regular periods with lists of additional licenses issued, as well as notices of suspensions, revocations and reinstatements.

Those desiring a copy or copies of the publication may write to the Registrar of Contractors at Sacramento.

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STEEL FLOORS

Fireproofing, strength and sound conductivity tests being made by the U. S. Bureau of Standards, indicate that steel floors will make a marked contribution to the art of building bridges and buildings. This was attested to by F. H. Frankland, Director of Engineering Service of the American Institute of Steel Construction, in an address before the tenth annual convention of the Institute held in Pittsburgh, Pa., last month.

Mr. Frankland said:

The fire and load tests of steel floors carried on for the Institute by the Bureau of Standards at Washington include the first fire tests of steel floors on record. The work under this program commenced in January, 1930, the first test was run in February, 1931, being followed by eleven other tests up to the end of September, 1932. Tests 13 and 14 should be completed by the end of November and the data collected during the three years' work will then be ready, when an appropriation to cover the cost is made available by the Institute, to collate, analyze and incorporate in the final official report of the Bureau.

The detailed results of the first eleven tests have been distributed to our membership in the form of preliminary reports, and the results from the three remaining tests will be made available as soon as they are received from the Bureau of Standards and mimeographed for distribution.

The program of tests was divided into two main sections, the first six tests were designed to obtain data from fire applied from above the floor, without fireproofing and with materials of varying fire-resistive qualities used as floor coverings. The second section of tests was for the purpose of obtaining data on the fire resistance of the steel floor with fire applied from below against ceilings of various types and degrees of fire resistance. In addition tests

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Nos. 13 and 14 will include fire hose tests in order to satisfy the requirements of the National Board of Fire Underwriters and various building codes, including the Recommended Standard Building Code of the Department of Commerce.

In fire tests of steel floors the criterion of protection is the ability of the fireproofing to resist temperatures set on the standard time-temperature curve, for the periods specified, without permitting any part of the load bearing steel to reach a temperature in excess of 1000° F, which is the maximum temperature at which fireproofed structural steel will safely carry the allowable design stresses. Also an additional criterion is the ability of the floor construction, with its fireproofing, to resist the transmission of heat from below so that the surface floor temperatures above do not exceed 300° F—this in order that combustible material on the floor of one room shall not become ignited by heat transmitted from the room below.

A report on the strength tests made at the Bureau of Standards has been distributed by the Institute to its membership. There yet remains, however, a series of sound conductivity tests of the steel floor to be made by the Bureau when the Institute has available funds.

It should be understood that the results from these fire tests apply to all steel floors where steel is the load carrying material.

CALIFORNIA HIGHWAYS

The architectural section of the Commonwealth Club of California has completed a report on the appearance of highways in the State. The report was submitted to the members October 20, at the Elks' Club, San Francisco.

The section, headed by Irving F. Morrow, who is consulting architect to Joseph B. Strauss on the Golden Gate bridge, has gone into the complete problem of the

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esthetic considerations of highways.

The recommendations of the section report contain the following:

1—It is our conviction that every road-building agency should contain in its organization a landscape architect familiar also with highway work, in a position of authority wherein his counsel will have weight and his plans be considered in a manner similar to those of the designing engineer. He should be intimately associated with every road project from the beginning of reconnaissance in the field, through all the phases of the design, construction and maintenance. We recommend this policy to the consideration of all public road-building agencies. In national park work this practice is already in effect between the United States Bureau of Public Roads and the National Park Service itself, with admirable results.

2—The California State Division of Highways should be empowered to acquire rights of way in any widths requisite for modern standards of road design, including parkways, and should be enabled to provide picnic grounds and other stopping places as part of its highway program.

3—The United States mining law should be amended to separate mineral and surface rights in land, thereby preventing on public lands the use of fraudulent mining claims to obstruct highway development and the control of marginal property in the interests of appearance.

4—Power should be granted to the State and counties by statute for the acquisition of scenic easements or partial rights in land where protection is desirable but acquisition of title unnecessary.

The Commonwealth report is the composite work of architects, engineers, landscape architects, and traffic experts.

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LOANS FOR HOUSING

States and cities are moving to expedite low cost housing and slum clearance with the aid of the Reconstruction Finance Corporation, according to the American Engineering Council. A national movement to encourage state action is gaining ground, and the disbursement by the Corporation of hundreds of millions of dollars to promote self-liquidating enterprises of this character seems assured, says a statement by the Council, which is co-operating with the Corporation in an effort to accelerate the granting of loans involving the field of engineering.

New York, by establishing a State Housing Board, is the first to comply with the provision of the Emergency Relief and Construction Act under which the Corporation can make loans to "corporations formed wholly for the purpose of providing houses for families of low incomes, or for reconstruction of slum areas, which are regulated by state or municipal law as to rents, charges, capital structure, rate of return, and areas and methods of operation."

The non-existence of an appropriate local regulatory authority, save in New York State, is the chief barrier to the financing with Federal assistance of a huge housing program employing large numbers of men and a vast amount of materials, the engineers declare. Concerted effort by engineers, architects, the building industry, and civic groups is gradually surmounting this difficulty, and the release of funds, soon to begin, is expected to acquire a momentum which will powerfully influence business revival.

Ohio, Illinois, Massachusetts, Indiana, and Pennsylvania have organized committees to bring about legislative action which will enable private building corporations to borrow from the Corporation. Chicago, Cleveland, Cincinnati, Boston, and San Francisco, in addition to New York City, are centers of this activity.

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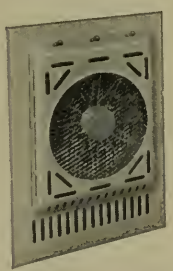

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slum clearance will undoubtedly be made in New York. In addition to projects already tentatively approved by the New York State Housing Board entailing the expenditure of $59,000,000 and calling for a loan of approximately $40,000,000 from the Reconstruction Finance Corporation, for which application has already been granted. Other New York projects of about equal amount are taking shape, and probably will be presented to the Corporation with applications for loans.

This situation, the engineers assert, indicates the large possibilities for industrial recovery inherent in the housing aspects of the Emergency Act. Congress, it is pointed out, imposed no limit on the funds which might be allotted to these and other self-liquidating projects.

The legislatures of Illinois and Ohio are now in session, and, it is believed, will pass legislation creating regulatory bodies to meet the requirements of the Emergency Act. The movement for legislative action in Illinois is directed by Alfred K. Stern, director of special activities of the Julius Rosenwald Fund.

In Cleveland, architects have prepared plans for projects based on a survey by the Committee on City Plan of the Cleveland Chamber of Commerce, headed by Abram Garfield, president of the Cleveland Chapter of the American Institute of Architects. In Cincinnati a housing project is being developed by the Cincinnati Better Homes Corporation, which, it is said, has been highly successful in providing housing for negroes. Groups in Cincinnati, Columbus, and Toledo have approved the proposed legislation in Ohio, which is sponsored by the Joint Council and Citizens' Committee of Cleveland, and which, it is understood, is sanctioned by Governor White. Ernest J. Bohn is president of the Committee.

In Boston, Mayor Curley has appointed an Advisory Commit-

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tee to study housing legislation. The chairman is William Stanley Parker of the Boston Chapter of the American Institute of Architects. The committee is now working for the passage of a statewide act setting up a regulatory body in the Department of Public Welfare.

Misunderstanding exists as to the conditions under which the Reconstruction Finance Corporation can make housing loans. Illustrative of the requirement that a local regulatory authority exist, is the Corporation's attitude toward the application for a loan from a Mississippi manufacturer for the purpose of erecting homes for the husbands of women employed in a shirt factory.

The Corporation, in rejecting the application, expressed the view that it was the feeling of Congress in enacting this legislation that the Federal Government could not afford to make loans for housing purposes if it also had to take over the burden of management. The Emergency Act, therefore, provides for loans only where this burden is assumed by a local regulatory authority.

The question of what is a family of low income will necessarily have to be determined in accordance with conditions in the locality where a housing project is to be erected, a Los Angeles company which applied for a loan has been informed. An approach to this problem, however, is contained in the New York State Housing Law, which provides for a maximum average rental per room per month of $12.50 in New York County and $11.00 elsewhere.

A bill now before the Illinois legislature provides that the average maximum rental in cities having a population of over 150,000 for two-room apartments shall be $25; for three-room, $32; for four-room, $39; for five-room, $46; for six-room, $53, and for apartments having more than six rooms, $53 plus $7 for each additional room.

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Of the Architect and Engineer, published monthly at San Francisco, Calif., for October 1, 1932.

State of California } SS.
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Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kierulff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

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TWO prominent San Francisco contractors were invited to address the Northern California Chapter at a recent meeting. One of them was Wm. S. Dinwiddie, head of the Dinwiddie Construction Company who spoke upon the relationship of the contractor and the architect. He urged closer cooperation for the good of the architectural profession, the building industry and the owner. He told of how the contracting business properly conducted has prospered and the same good fortune is in store for the architect if he will follow at least two important fundamentals when he secures a commission. The first is not to underestimate a job for the sake of securing one, and second, insist upon strict inspection of the work. Too many architects fall down in their preliminary estimates. They are not dependable. When final bids are taken somebody must suffer if the building is be put up for anywhere near the preliminary estimate. In New York City ten building projects carried forward over a period of five years cost $28,000,000 for which the preliminary estimates were $16,000,000. It is far better to have the preliminary estimate of a building excessive than underestimated, even in the face of a possibility that the owner will decide not to go ahead with the project because too much money is involved. But it is far better not to build at all than to build poorly, Mr. Dinwiddie says. The owner who considers price gets just what he pays for and no more. Regarding the peddling of bids there is less of it being done in San Francisco to day than ever before and it appears as if the general contractors have seen the light and are now willing that all concerned should share with them in making a reasonable profit.

⁂ ⁂ ⁂

ARCHITECTS and landscape engineers on the Pacific Coast have in years past had cause to think twice before bringing the tree surgeon into their client's affairs. Tree surgery is a highly specialized profession and for that reason unreliable persons have taken advantage of the unsuspecting to practice rather questionable methods in the treatment of their tree problems.

There are reliable and scientifically trained tree surgeons operating in these Western States and ordinary care and investigation on the part of those interested, will put them in contact with men who can handle all tree surgery without endangering the relationship of the architect and landscape engineer and his client.

Trees are entitled to the same care, when ill, as are human beings and a "quack" cannot minister to the ills of either.

⁂ ⁂ ⁂

HERE'S one on competitions that should go down to posterity. It is reprinted from the monthly Bulletin of the Washington State Chapter, A. I. A.:

"Another published item brought to the attention of the Bulletin editor is the following giving an account of the assistance given by a distinguished British artist to our fight against unfair competitions.

"When Sir Philip Burne-Jones was traveling in the United States he received a circular letter from a firm engaged in the sale of dried fruit inviting him to compete for a prize for the best design to be used in advertising their wares. Only one prize, the circular stated, was to be given, and all unsuccessful drawings were to become the property of the firm. After reading the circular, Sir Philip sat down and wrote the following letter:

Manager Dried Fruit Company.

Dear Sir:

I am offering a prize of fifty cents for the best specimen of dried fruit, and should be glad to have you take part in the competition. Twelve dozen boxes of each kind of fruit should be sent for examination, and all fruit that is not adjudged worthy of the prize will remain the property of the undersigned. It is also required that the charges on the fruit so forwarded be paid by the sender.

Yours very truly,
P. BURNE-JONES.

⁂ ⁂ ⁂

HEAVY imports of foreign steel last year resulted in depriving 240,000 American workmen of a week's work, according to J. W. Thomsen, of the Stupp Bros. Bridge & Iron Company of St. Louis, addressing the tenth annual convention of the American Institute of Steel Construction in Pittsburg last month.

According to Mr. Thomsen, the importation of steel from Continental Europe to the United States has increased rapidly in the past two years and due to the very low percentage of operations the loss of this tonnage has been felt very keenly by our American mills.

It is well known that foreign steel is being delivered to our coastal cities at prices which are demoralizing not only to the price structure for plain material —but also to that for fabricated material.

ANENT the two recent articles in this magazine dealing with the air cooling problem, the following communication asking for some dependable information on the cost of installing an air conditioning plant in a building is pertinent:

"The problems of filtration, humidifying, dehumidifying, heating, washing, cooling and purifying air in order to make it fit for human consumption, engaged the attention of the Illinois Society of Architects at a recent meeting. The purpose of the assemblage, as edvertised, was to dispel the confusion surrounding this subject and clear up the many questions perplexing architects out of work or out after work.

"But zounds! As the sweet bard of Avon would say, confusion is worse confounded. The engineers captured our sincerest admiration by the deft manner in which they toyed with thermostats, ductostats and humidistats. The contractors intrigued our deepest interest with their manipulation of solenoids, paranoids and schizoids. But both of them left us with nothing but aching voids when the subject veered to the matter of costs. Floundering around in a sea of bewilderment, the architects cried out desperately but vainly for a life-line of understanding in the form of cost data, but nary a datum was there.

"How much does it cost? Well does the architect realize the portent of those five fateful words. They compose the first question the client asks of his architect and their answer is the last thing said client ever forgets—especially if the final cost is not in agreement therewith.

"Accurate cost data is absolutely essential to the architect. Rapid methods for making preliminary approximations of cost are just as vital. Conditioned air is no exception to the general run. The very fact that it is rapidly coming into popularity, furnishes the more potent reason for the necessary basic data. If the engineers and the contractors fail us, there is only one source of information left. We must turn to the politicians. They are experts on air, though much of it lacks any conditioning."

—*Tirrell J. Ferrenz.*

We are indebted to the Bulletin of the Illinois Society of Architects for the above. Let's hear from the authorities now so we can get this matter of cost straightened out.

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THE ARCHITECT AND ENGINEER

DECEMBER
1932

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This Issue

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Frontispiece MISSION DOLORES CHURCH, SAN FRANCISCO
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Next Month

MESSRS. THOS. J. KENT AND ANDREW T. HASS, an architectural firm whose work in ecclesiastical and domestic architecture in the San Francisco Bay region has received much favorable comment by critics, will contribute photographs and drawings of some of their recent buildings.

The third installment of Elmer Grey's interesting series of articles on his architectural experiences while a young man will be found even more fascinating than the first two chapters.

A. A. Brown, C. E., will describe some of the salient points in the recently published report by a Committee of the American Society of Civil Engineers of Subsidence and the Foundation Problem in San Francisco. Several full page plates of exceptional interest and value to engineers, arcbitects and contractors, will accompany Mr. Brown's article.

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MISSION DOLORES CHURCH, SAN FRANCISCO
H. A. MINTON, ARCHITECT

THE
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AND ENGINEER

DECEMBER 1932
VOLUME 111
NUMBER THREE

RECENT WORK OF H. A. MINTON, ARCHITECT

by
Rev. RICHARD J. CURTIS

To ask a man who is neither a technician nor yet a master-craftsman to express his impressions of the works of an architect, is unquestionably a dangerous thing. For the impressions of a man who invariably goes pale at the sight of an ordinary blueprint and who faints quite away at the simple suggestion that he compare the Chalukyan style of the Gopura of the Temple of Siva with the Dravidian effects in the Great Pagoda at Tanjore, are bound inevitably to be architecturally heretical.

Nevertheless even such a man may have his point of view; and,—what is worse,—under the slightest provocation he may insist upon expressing it.

BUILDING FOR BANK OF AMERICA, SAN JOSE
H. A. Minton, Architect

If we were to attempt a generic classification of the architectural accomplishments of Mr. Minton in San Francisco and California we should be apt to decide that his talents have been concentrated chiefly upon the architectural glorification of two great motivating ideals of human life: Financial Confidence as expressed in Banks, and Religious Faith as expressed in Ecclesiastical Edifices.

In both of these endeavors Mr. Minton has disclosed himself a pragmatic artist. A pragmatist you will remember,—if you have heard or read Professor William James of Harvard,—is a man who strives primarily to create or produce something of practical utility. The utility of the thing produced, in fact, can be the only ultimate form of its goodness and truth.

MARYKNOLL JUNIOR SEMINARY, LOS ALTOS, CALIFORNIA
H. A. Minton, Architect

CHAPEL, SANTA CLARA COLLEGE, SANTA CLARA, CALIFORNIA
H. A. Minton, Architect

And a pragamatist who is also an artist contrives that that practically useful thing may also appear as a thing of beauty and a joy to all who may behold.

Mr. Minton has attained to this two-fold desideratum in the bank constructions which he has contrived, particularly his branch buildings for the Bank of America throughout the State of California.

But it is his ecclesiastical architecture which concerns us chiefly in this article. Here also we may discern the same pragmatic artistry. His work for the Catholic Church, with which perforce we must deal particularly, is invariably characterized by its artistic variety of design, and at the same time by the individual manner in which each separate construction has met the varying requirements imposed by location and prospective use.

In keeping with its policy of providing suitable structures to meet ever increasing needs, the Catholic Church, under the leadership of Archbishop Hanna in the Archdiocese of San Francisco, has concentrated upon a building program during the past few years. Schools, churches, convents, parish houses, mausoleums, novitiates and missions have been included in this program. And Mr. Minton has successfully completed a number of each group in San Francisco and Northern California.

Schools designed by Mr. Minton include the Holy Names Central high school group in Piedmont Heights, St. Brigid's and St. Cecelia's, both in San Francisco; Mount Carmel in Redwood City, St. Rose's in Santa Rosa and St. Mary's School for Boys, in Stockton.

The Maryknoll Junior Seminary at Los Altos, California, on which project Maginnis and Walsh of Boston were the consulting architects, has a unique educational purpose. Conducted by the Maryknoll Fathers, an American Missionary Society, and devoted to the instruction of missionaries who will go to China, Manchukuo and Korea, this Los Altos structure artistically reflects the architectural motif of the countries to which its students are dedicated. Arcades and towers, plain surfaces relieved by ornamental Oriental features, and well studied fenestration, make the silhouettes and facades interesting from all angles. The interior continues the feeling of the Orient both by its architectural style and by the furnishings. The most important unit—the chapel—fittingly radiates an air of devotion and peace without losing the mystic atmosphere so typical of the Far East.

Corrective institutions in which the erring boy or girl, through proper education, might be brought to good American citizenship, have always been fostered by the Catholic church in this country. The Home of The Good Shepherd, in San Francisco, offers its occupants an opportunity to learn and develop in surroundings which do not remind them constantly of their confinement.

At Mont De La Salle, near Napa, California, the aspirants for the profession of the Christian Brothers are given instruction. The buildings in which they live and learn during this period of preparation are divided into three units. The Novices portion is separated from the Juniorate by the administration building, which houses the infirmary, chapel and dining rooms. The chapel is worthy of particular mention. It very properly dominates the entire group, and with its natural wood beams and trusses, its exquisite outer corridor and its beautiful vestibule doors of hand-carved wood, it offers artistically the ultimate note of religious inspiration so greatly to be desired in such a surrounding. Both the Novices unit and the Juniorate are complete in themselves, with living quarters for their occupants. Arcades, at once both practical and artistic, are a feature connecting the various units and providing an inspirational atmosphere for meditation.

At the Santa Clara University Mr. Minton is responsible for two of its recent buildings—the Chapel and the Dormitory —which again express intuitive ability in combining use and form.

It has always appeared to us, as "one less wise" and at the same time as one whose ideas must "willy-nilly" be expressed that the most difficult task with which an architect might be burdened would be the remodeling of churches under the handicap of our unswerving insistence that the

MAIN ALTAR, MARYKNOLL JUNIOR SEMINARY, LOS ALTOS, CALIFORNIA

H. A. MINTON, ARCHITECT
MAGINNIS AND WALSH, CONSULTING ARCHITECTS

ST. BRIGID'S PAROCHIAL SCHOOL, SAN FRANCISCO
H. A. MINTON, ARCHITECT

ST. BRIGID'S CHURCH, SAN FRANCISCO, BEFORE ALTERATIONS
H. A. Minton, Architect

different heights, —the lower parts of which were from the original building — appropriately completes this tradition autochthonic structure so intimately connected with California's early settlement. The remodeled church,— practically touching the old abode structure erected by the Spanish Franciscans and dating back to the historic year 1776, —rises from and, — as it were, — carries aloft to our modern civilization the ancient tradition of the old

original traditional line of the edifice be preserved. Such was the intriguing problem confronting Mr. Minton at St. Brigid's and the Mission Dolores churches, San Francisco.

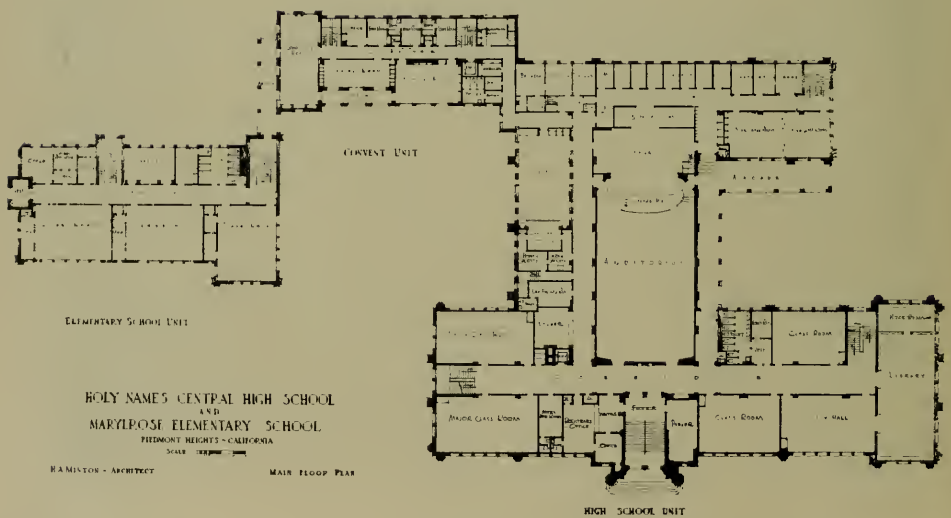
St. Brigid's church, situated on Van Ness Avenue, one of the city's most important thoroughfares, has long been associated with San Francisco's history. Primarily to increase capacity, the Van Ness Avenue end was completely altered. By reusing the stone facing and the rose window the character of the original building has been retained, while the fine detail of the new exterior has greatly enhanced its beauty.

Mission Dolores church, with a background familiar to all Californians, presented rather a problem. Its solution was highly successful. A rich entrance of Spanish-Mexican character, flanked on either side by exquisitely designed towers of

ST. BRIGID'S CHURCH, AFTER ALTERATIONS
H. A. Minton, Architect

ENTRANCE DETAIL, ST. BRIGID'S CHURCH, SAN FRANCISCO
H. A. MINTON, ARCHITECT

COURT, HOLY NAMES CENTRAL HIGH SCHOOL, OAKLAND
H. A. Minton, Architect



PLANS, HOLY NAMES CENTRAL HIGH AND MARYLROSE ELEMENTARY SCHOOLS, OAKLAND, CALIFORNIA
H. A. Minton, Architect

Altar by Fink & Schindler

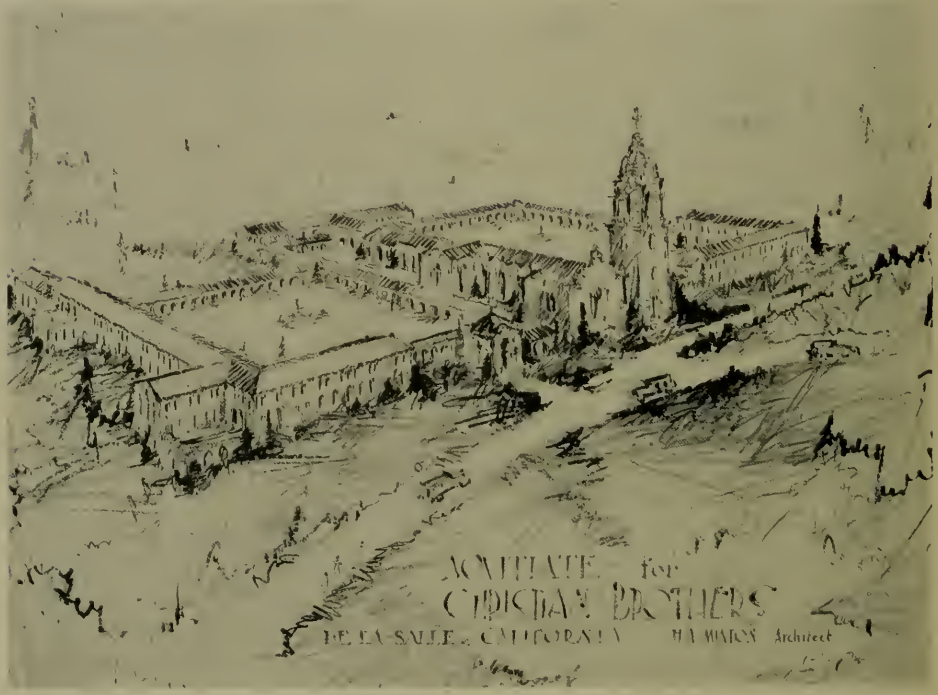
INTERIOR OF CHAPEL, HOLY NAMES CENTRAL HIGH SCHOOL, OAKLAND, CALIFORNIA

H. A. MINTON, ARCHITECT

Spanish Catholic Mission Nuestra Senora de los Dolores.

Catholic mausoleums represent also an important part of Mr. Minton's contribution to ecclesiastical buildings. The San Joaquin mausoleum at Stockton, the St. Joseph's mausoleum at San Pablo, and the Holy Sepulchre mausoleum at Hayward, are three fine examples of this type of building. Although one in purpose, they are entirely different in design. Practically windowless and without rigid plan requirements, mausoleums offer to the architect splendid opportunity for original treatment. Extremely dignified and with a proper note of funereal solemnity, each is rich with appropriate symbolic ornament, —particularly accented at the entrances. Inside chapels are featured; and long marble corridors and private rooms, all with crypts lining the walls, add their silent contribution to the general air of tranquility that prevails.

Just as the church building program does not embrace only churches, the building program of the Bank of America does not include banks as its only construction work. Office buildings and stores in large numbers have been interspersed with banks built and owned by this state-wide institution, or its subsidiaries.

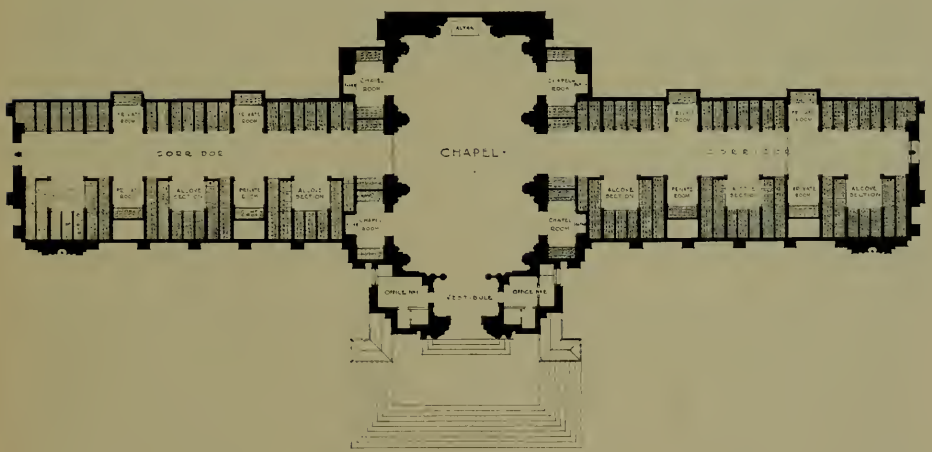


NOVITIATE FOR CHRISTIAN BROTHERS, DE LA SALLE, CALIFORNIA
H. A. Minton, Architect

While his buildings for the church have suitably been designed along traditional lines, Mr. Minton's bank work has followed the architectural trend of the times.

The buildings in Petaluma, Chico, San Mateo, Los Gatos, and Hollister are among the more recent structures planned for the Bank of America. Although their plans naturally bear a similarity, their exteriors and interiors present a diversity of design agreeably surprising in this era of "chain store" ideas.

ENTRANCE DETAIL, HOLY SEPULCHRE MAUSOLEUM, HAYWARD
H. A. Minton, Architect



MAIN FLOOR PLAN, HOLY SEPULCHRE MAUSOLEUM, HAYWARD
H. A. Minton, Architect

SAN JOAQUIN MAUSOLEUM, STOCKTON, CALIFORNIA
H. A. Minton, Architect

BUILDING FOR BANK OF AMERICA, PETALUMA, CALIFORNIA
H. A. Minton, Architect

BUILDING FOR BANK OF AMERICA, SAN MATEO, CALIFORNIA
H. A. MINTON, ARCHITECT

ENTRANCE DETAIL, ST. JOSEPH'S MAUSOLEUM, SAN PABLO, CALIFORNIA

H. A. MINTON, ARCHITECT

A STEP FORWARD IN STATE PARK PLANNING

PACIFIC Coast Chapter of the American Society of Landscape Architects, has shown commendable civic pride in presenting to the California State Park Commission, the following Plan and Report of the Development of Doheny Park Commission the following Plan and in California of legislative action that will provide sufficient funds to enable the State to employ recognized professional landscape architects on such projects as the Doheny park. This need is further emphasized by Guy L. Fleming, custodian of the Torrey Pines Preserve at La Jolla, California, who says in a letter to Wilbur David Cook of Los Angeles, an officer of the Pacific Coast Chapter, American Society of Landscape Architects:

"The urge for trained men in State Park work is obvious. Only by the selection of such men may we hope to avoid the pitfalls of political exploitation and 'hit or miss' development.

"I think the outstanding example of the need of a central experienced council of landscape advisors is evidenced by the lack of coordinated plans for the preservation of the natural landscape and scenic improvements along our highways. Throughout the State we witness the unnecessary spoilation of the landscape because local planning commissions and highway engineers, who are entrusted with the task of planning our major thoroughfares, are not trained to recognize the scenic factors that make a charming highway landscape.

"Our roadways are becoming stereotyped speedways; desolate wastes of raw fills, huge cutbanks, and scarred levels, unattractive and commonplace because of the wanton destruction of the native trees and shrubs and other natural scenic features that border the roadside.

"The State Highway Commission, as well as the State Park Commission, should have as counsellors a landscape advisory board employed to pass upon all highway development. A landscape advisory board serving under the Department of Natural Resources could direct the plans for State parks, parkways and highways. I believe that the American Society of Landscape Architects is the proper organization to institute legislation creating such a board.

"I am a strong advocate of using a percentage of the gasoline tax to finance State park and parkway development and the scenic improvement of our highways. It is only just that a portion of the immense revenue derived from the gasoline tax, a tax paid by those who use the highways and parks, should finance the rehabilitation of our highway landscapes and assist in the development of State Parks and parkways."

In offering the Doheny Park Plan to the State, Mr. Cook of Cook, Hall & Cornell, Los Angeles, says:

"In behalf of the Pacific Coast Chapter of the American Society of Landscape

Architects, it is my pleasure to present this plan and report for the development of Doheny State Park in Orange County, California, to the State Park Commission, through the Parks and Recreation Committee of the State Chamber of Commerce.

"The plan is a contribution from some fifteen professional Landscape Architects who are intensely interested in advancing the State Park Program.

"It is recognized that one swallow does not make a summer, and that one park plan, however well designed, does not insure a meritorious State Park Program.

"A long step has been taken towards acquiring land for our State parks, and success of the program will depend on the successful and skillful planning of each and every park in the State Park System."

Following is a copy of the Doheny Report and Plan:

On Nov. 6, 1928 the people of the State of California ratified by an overwhelming majority what is known as the State Bond Act. This act provided for the issuance of Six Million Dollars in State Bonds to be used for the purchase of park lands, with the proviso that in making any purchase, one half of the cost of the project be contributed to the State either in money or land.

The State Park Commission had previously employed Frederick Law Olmsted, a past president of the American Society of Landscape Architects, to take charge and undertake a complete survey "to determine what lands are suitable and desirable for the ultimate development of a comprehensive well balanced State Park System, and to define the relation of such a system to other means of conserving and utilizing the scenic and recreational resources of the State."

In commenting on Mr. Olmsted's report the Commissioners have stated, "We cannot praise too highly this magnificent report which deals with the problem in hand in a masterly fashion."

The Pacific Coast Chapter of the American Society of Landscape Architects commends the principles set forth in this splendid contribution to Mr. Olmsted in pointing the way to park development; and the Chapter wishes to make a contribution from its members in advancing the far sighted development of State parks, in order that the State of California may profit to the full in the expenditure of her bonds.

With this idea in view, Mr. Wilbur D. Cook, representing the Pacific Coast Chapter, has attended the meetings of the Parks and Recreation Committee of the Southern California Council of the California State Chamber of Commerce.

As a member of this committee, of which Mr. George R. Bliss is Chairman, he has reported back to the Pacific Coast Chapter that the State park development program is vitally in need of adequate advice in the planning of the *individual parks* which comprise the State Park System and program. He has further reported that while many parcels of land for State parks have been and are being acquired, *there is no money available at this time for the employment of park designers of recognized ability*, although the committee fully realizes the need of comprehensive intelligent park planning.

Appreciating this situation, and knowing that the success of the State Park Program requires that the individual parks be scientifically planned with every consideration given for their greatest usefulness to the people, the Pacific Coast Chapter of the American Society of Landscape Architects offered its services in preparing a design for one park site to be selected by the committee.

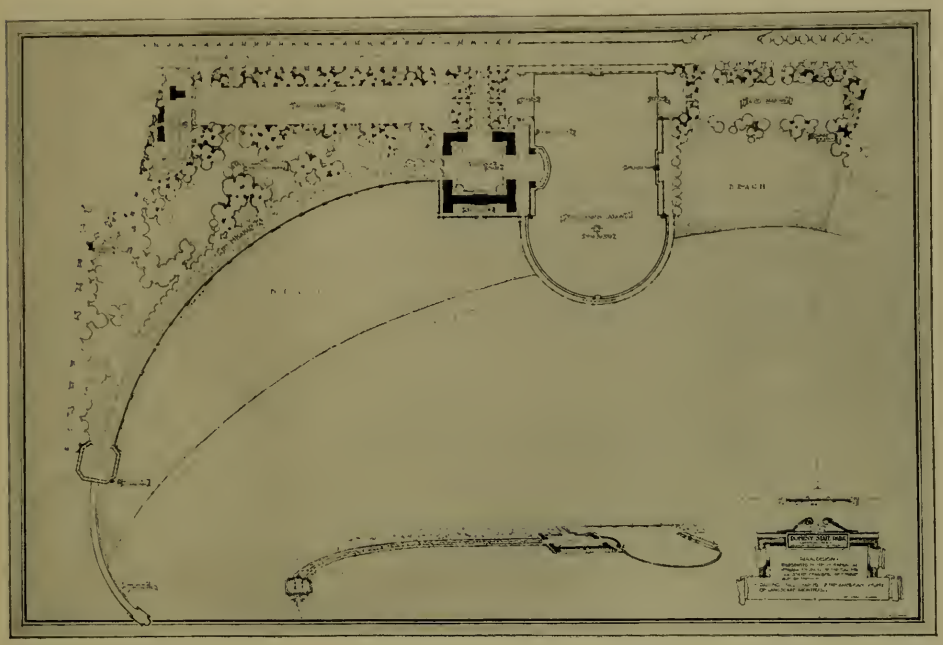
These services have been gladly accepted by the Parks and Recreation Committee in behalf of the State Park Commission, for Doheny State Park, Orange County, Cal.

The designing of parks is one of the outstanding activities of professionally trained landscape architects. The principles of good park design require adaptation to individual park sites, and demand that the designer have experience, knowledge and artistic ability in planning for definite practical and aesthetic ends. The aim of park

designing is to create the best uses of the land, and to supply the fullest opportunity for recreation and enjoyment of the people.

In the training of every professional landscape architect, as recognized by the American Society of Landscape Architects, the study of parks and park problems has

ularly those in California, have not fulfilled their best potentialities due, in large measure, to the fact that many of those responsible for the planning have failed to appreciate the highest principles of park design and construction. There are of course numerous exceptions to these criticisms, but



DESIGN FOR DOHENY STATE PARK, ORANGE COUNTY CALIFORNIA

Pacific Coast Chapter, American Society of Landscape Architects

been of major importance. Proficiency in park planning requires a thorough knowledge of landscape engineering in order that the ground forms and contours may fulfill their part in carrying out the design; a thorough knowledge of horticulture in order that the selection of plants and the planting of trees, shrubs and flowers, may create a happy landscape composition; and a clear appreciation of the part that architecture and sculpture should play in the development of every park.

It is recognized that the parks of the United States, in general, and more particit must be acknowledged that often parks have been designed by those who are proficient only in horticulture or engineering, and who lack the qualities of appreciation and training required to transform a barren place into a beautiful park development.

The theory, and too often the practice, of allowing parks to grow without any competent park design, or any clearly defined programs of execution, is costing the people millions of dollars. This expense could have been readily saved, and larger returns to the people would have been acquired, if intelligent foresight and the

judicious planning of our parks had been followed.

Taking up the State Park Program, it has been suggested that a few "standard" plans should be prepared and that these plans should become the basic design for a number of State parks. While such standard plans might help to a certain extent, a program of this kind would be an unworthy solution to this wonderful conception of a State Park System such as Mr. Olmsted suggests. The essential aim in every park should be to create a distinctive individuality predicated upon principles of good park design, adapted to varying topographic conditions and the special functional requirements of the several types of parks, whether regional in character, local parks, seashore parks, playgrounds or public squares. Each type of park should fulfill a distinctive need in its community and should be planned with consideration for its particular functions in giving recreation to the people.

The Pacific Coast Chapter of the American Society of Landscape Architects, in carrying out its offer to the State Park Commission, through the Parks and Recreational Committee of the Southern California Council, State Chamber of Commerce, takes pleasure in presenting this Plan and Report in the hope that it may be of real service in advancing the State Park Program. The design for Doheny State Park has been evolved through a series of studies and consultations between members of the Chapter, and after a thorough investigation of the site and its characteristics. Much valuable information as to flood control conditions, tidal data, and a topographic survey has been supplied by Mr. Leyden representing Mr. Doheny, who was the donor of the land and who is very much interested in the judicious development of this park.

The Pacific Coast Chapter wishes to express its appreciation of the services of Messrs. John D. Wright, Charles Diggs, and W. D. Cook who acted as a sub-committee of the Parks and Recreation Committee, who contacted the various interests and outlined a general program as a basis for the preparation of the plan, as now presented.

A description of the Plan as it appears in the Report follows:

The principles underlying the design of a Beach Park, to accommodate large gatherings of people of all ages, coming often from considerable distance for recreation at the ocean front, have been carefully considered in the designing of Doheny State Park. This park, located in Orange County, comprises some 42 acres and is readily accessible by the California State Highway. The site, sloping generally from the Highway to the shore line with pronounced irregularities due to the erosive action of San Juan Creek, offers problems in landscape engineering and flood control that have been solved in a way to create a distinctive individuality to the park design.

The plan lays great emphasis on the main beach, approximately 2600 feet in length with a depth averaging 250 feet. This beach is adequate to care for many thousands of bathers. In addition the plan contemplates the construction of a Tidal Swimming Lagoon, 750 feet long and 400 feet wide, to be replenished by fresh sea water with every high tide, this lagoon to accommodate those bathers who prefer the safety and enjoyment of still water activities.

On entering the Park through the main tree lined avenue one notices the strong use of a major axis, bringing out the importance of the straight direct entrance from the State Highway into the Entrance Plaza. The value of this major approach is enhanced by the judicious use of heavy mass planting approximately fifty feet deep paralleling the line of trees and thus screening the side views into the parking area and Lagoon Beach.

The terminus of this main entrance avenue is the spacious, paved Plaza, ample in size and about which are grouped the various buildings. Directly ahead one sees the Bath House and through the central arch is an interesting, distant view of the ocean, with the wide, expansive beach intervening. The other buildings are suggested as future locations to cover park needs.

It is highly important from a point of design that all buildings grouped around the Plaza shall be restricted to one story in height, in order to accentuate horizontal lines in the entire park development and also to keep the buildings of secondary importance.

Across the beach side of the Bath House is shown a glassed-in terrace to provide protection for those watching the bathers and also a place where meals or light lunches might be served.

The main entrance way is to be used by pedestrians only and no vehicular traffic allowed into the park other than to the parking areas. However, one exception has been made in providing a by-pass road from the main parking area to the group of buildings around the Plaza. This special service entrance can be blocked when not needed by the installation of removable posts.

Passing from the Entrance Plaza to the right of the plan, one is led across an Overlook Terrace to a semicircular peristyle, on each end of which are stair towers. The peristyle provides a place for tables and chairs for the use of those watching swimmers in the Tidal Swimming Lagoon, while the stair towers lead down to the water level of the Lagoon, which is approximately six feet below the Overlook Terrace.

The suggestion of a Tidal Swimming Lagoon is mainly to take advantage of the existing low area in that particular section and also to provide a place for still water swimming for those bathers who do not care to ride the breakers. This will still keep open the San Juan Creek water course and will properly take care of excess surface water from the upper lands by the use of a gate and check dam at the north end of the Lagoon, and also prevent salt water from backing up to polute the fresh water wells. An adequately sized flood gate would be provided in the end of the circular sea-wall of the Swimming Lagoon to insure proper circulation of water at every high tide.

The south half of the Lagoon will be maintained as the deep end while the north half will be constructed for a shallow depth, with the small beaches on either side of this shallow end providing a safe place for small children to wade and to play in the sand.

The Entrance Plaza again serves as a direct approach to one of the main features of the entire park, namely, the long, graceful curving and tree-lined Esplanade built at a level three or four feet above the beach and this difference in grade taken up in a wall, into which are built barbecue ovens at equal intervals. These barbecues would be useable from both the Esplanade side and the beach side and would serve as architectural features incorporated in the Esplanade wall.

Down the center of the Esplanade is a double avenue of large trees providing shade for the many benches and picnic tables placed the entire length of this avenue. As a terminus to the Esplanade is shown a large open court with a colonnade enclosure. This might serve as an Outlook Tower for a beach light and also as a life guard station.

Immediately back of the Esplanade is a very large area devoted to spacious open lawns and planted occasionally with tree groups. This entire lawn area should be developed very informally to appeal to family picnic parties as well as play areas for children.

Automobile parking is provided for with the two parking areas adjacent to the main highway and these areas are carefully screened from the highway and the interior of the park by the use of a heavy border of planting sixty feet deep. There is ample space for four lines of cars and a total parking provision for 700 cars.

As a suggestion for a possible future need an extension of the Esplanade is shown as a Fishing Pier which will result in protection to the beach.

The Pacific Coast Chapter of the American Society of Landscape Architects submits the above detailed description with the earnest hope that it is evident from comprehensive planning and careful study a most distinctive design has been produced for Doheny State Park expressing unusual interest and individuality.

Y.W.C.A. BUILDING, SAN DIEGO, CALIFORNIA

CLARENCE E. DECKER AND F. W. STEVENSON, ASSOCIATED ARCHITECTS

"WE BATTLE THE COUNTLESS MILLIONS"

by
CHET NINEKIRK

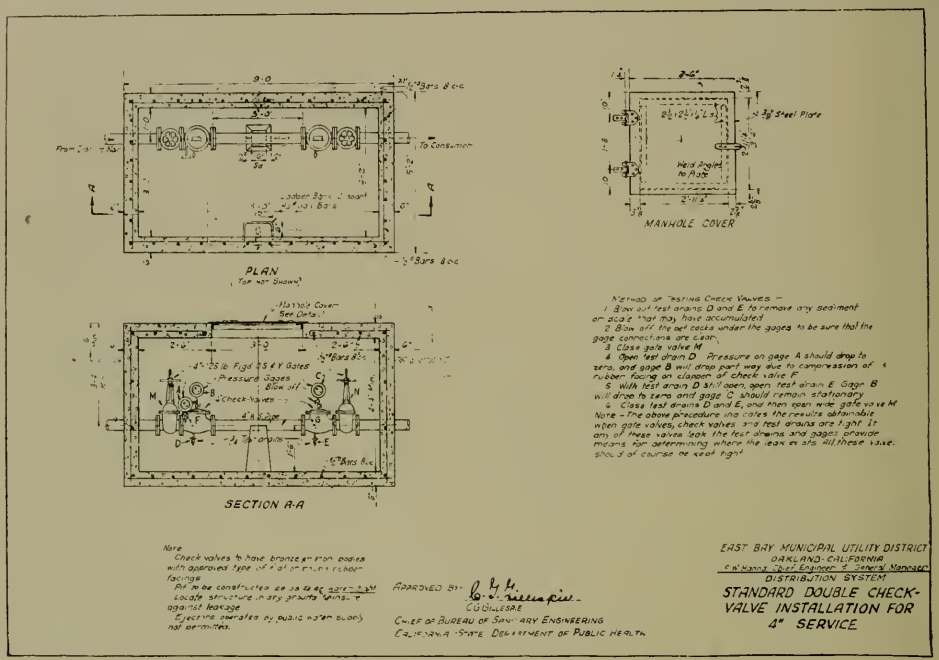
IT is true that the dynamic efforts of our civilization to prevent contamination have been exceedingly successful, thereby making it possible for our condensed populations to enjoy that most valuable of human possessions — health. Preventive medicine and effective methods of sterilization are of colossal importance to our enjoyment of life and longevity. The food we eat and the water we drink must be kept clean and free from contamination. Naturally, the cleanliness of our city water supply is very important and on equal terms must be considered the proper disposal of sewage if we are to continue to enjoy freedom from disease. Right here we are brought to the realization that the physician and the plumber, the bacteriologist and the sanitary engineer, are officers in the same army; an army which knows no armistice, and whose battles must never cease, for their foes are the countless millions of bacteria which continually pour upon the world their numberless batallions of disease spreading germs.

Of all the battles constantly being waged against contamination, we are perhaps most interested in that one which concerns our water supply. When we stop to consider that sewer lines and drinking water pipe lines are connected to the same plumbing fixtures; when we realize that sewage contamination of drinking water allows rapid propagation of dangerous forms of colon bacteria, only then can we understand the importance of proper design and installation of sanitary plumbing and water distribution systems. It would be almost unbelievable to think that pollution of any kind could possibly under any condition, transfer itself from waste to supply pipes. It makes us shudder to think of such a thing. Nevertheless, let me cite you a glaring example of just such a condition. It is a building having a toilet flush valve installation. In this case the closet bowl water is siphoned in the opposite direction through the flushing valve and back into the drinking water supply! Although this is not possible when the city water pressure is maintained, it is both possible and probable when the water service is temporarily shut off. For instance, the water main supplying two or more floors has been temporarily shut off to facilitate repairs of some sort. Then a tenant on one of the lower floors, not knowing that the water supply has been temporarily discontinued, opens a faucet. Immediately the column of water in the supply pipe to the upper floors lowers, causing a partial vacuum which in most existing flush valve installations, becomes effective enough to cause back-siphonage of water from a toilet bowl, seriously contaminating the drinking water supply. This sort of thing does happen, and the construction of a large number of flushometer valves is such as to act in this manner. The ports in the toilet bowl flush-

ing rim usually provide sufficient air to break the vacuum and prevent water leaving the toilet bowl through the jet aperture. Nevertheless, the rush of air which passes through the flushing rim ports can be plainly heard—anything but a sanitary condition, to say the least, and certainly a source of contamination.

filled with city water, the hook-up is such that it prevents any possibility of return.

Another possible source of city water pollution may come from a private supply; that is, where the city water supply line is connected to a private water system; piping and valves so cross connected that the city service is always available for use in an



DOUBLE CHECK VALVE INSTALLATION FOR STANDARD SERVICE CONNECTION, EAST BAY MUNICIPAL UTILITIES DISTRICT, OAKLAND

It is gratifying to learn that most manufacturers have taken cognizance of this insidious hazard to life and health, and have devised methods to prevent this menace. On the other hand, it is almost unbelievable to hear that some cities have not adopted the proper precautionary measures.

The city of Seattle requires that toilet flushing valves be supplied with water from an open tank installed on the top of buildings, thereby furnishing an independent water supply, completely isolated from the municipal system. Although the tank is

emergency. The question is—how are we going to keep the intermittent user from contaminating the city water in the event that his supply is dangerous to health? One of these cross-connected consumers called on his water company to repair the street service. While the work was being done, water from a windmill tank found its way into the city main, and through this cross-connection went the dreaded typhoid. A most peculiar incident of this case was, that the man and his family had been drinking the germ infested water for some little

time. They had become immune to the disease and therefore ignorant of its presence. Nature's battle for immunity had been successful. Other citizens of this community were not so fortunate. Heavy night treatment of water mains with chlorine gas finally rid the system of the menace.

Algae growth in open reservoirs of stored water is another source of annoyance. Contamination from bacteria is, of course, of much greater concern and it is very important to keep the purity of a city supply within the count of 100 per c.c. While all bacteria are not dangerous, the Streptococci and B. Coli groups are the pollution mongers; they are the indicators of contagion. Many a crystal clear brook or gentle flowing stream may be unfit for human use, due to the presence of these pollution mongers. "Flow Gently Sweet Afton" may suggest many fanciful pictures to one's mind, and the music of this old song is beautiful. All arguments to the contrary, notwithstanding, and never having seen the Afton River, I think that the "flow gently" would bear heavy testimony against it as a potable water supply.

It is a matter of record, that the brown, bad tasting water of the peat bog (as found in Europe and Northeastern United States) was recognized by sailors of early exploring days, to be safer for human use than the lucid waters of ponds or slow moving rivers. The acid content of this foul smelling water, without doubt, prevented the growth of disease spreading germs. Articles lost by peoples of ages past have been recovered from the waters of these bogs in an unusually good state of preservation, due to the pickling qualities of the water.

There is another type of water supply which requires careful supervision. It is the swimming pool. Bacteria control in swimming pool water is often neglected in many localities. A swimming pool resembles a miniature city water system except that a residual chlorine content must be kept in the water. This control must be kept within two-tenths and five-tenths of one part per million for proper bacteria control. This dosage, of course, is necessarily higher than is required for a municipal water supply.

[Turn to Next Page, First Column]

IMPORTANT RULING OF PUBLIC HEALTH DIRECTOR EFFECTIVE JANUARY 1, 1933

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH
SACRAMENTO

March 21, 1932

East Bay Municipal Utility District,
Oakland, California.

Gentlemen:

In the matter of the application of the East Bay Municipal Utility District for permit to supply to the district and small adjacent areas, through the system formerly owned by the East Bay Water Company; also to enlarge San Pablo Filter Plant and Upper San Leandro Filter Plant, and to serve Mokelumne River water provided it is safe, physically attractive, and potable, date of application October 18, 1929;

I wish to inform you that the State Board of Public Health, at its regular meeting held on March 12, 1932, adopted the following resolution:

"WHEREAS, there are numerous cross-connections existing between the distribution system of the East Bay Municipal Utility District and private sources of supply in such manner that a flow of water into the distribution system of the East Bay Municipal Utility District is possible therefrom, and

WHEREAS, such private sources of supply are not under sanitary supervision and are of unknown safety and purity, and therefore the cross-connections constitute a menace to the health of the water consumers of the district, and

WHEREAS, the water supply permit to said District, issued by the Board of Public Health on September 19, 1931, is temporary by reason of the above circumstances, until the elimination of the various cross-connections.

THEREFORE, BE IT RESOLVED, that the following order be issued to the East Bay Municipal Utility District, under the provisions of the Sanitary Water Systems Act and is a part of the aforesaid temporary permit:

The East Bay Municipal Utility District shall:—

1. Make or cause to be made surveys of premises of its consumers and determine whether there is a dual or private source of supply thereon, or any equipment of any kind, class or description which may contain water unfit for human consumption, and determine whether such source of water or equipment is physically connected with the public water supply piping of the East Bay Municipal Utility District in

[Turn to Next Page, Second Column]

Liquid bromide may soon find a new use in the field of water sterilization. Recent tests, which were made at the University of California, to determine the killing power of bromine, produced important results. Bromine is particularly well adapted for the disinfection of swimming pools and the smaller types of private and rural water supply systems.

Although we have considered in a very small way a few of the possible sources of water pollution which affect our life and health, how important it is that we consider this problem of sanitation real seriously. Candidly, it means the life or death of civilization.

In retrospect, we think of great populations of ages past—how they struggled for existence, only to be hewn down like blades of grass before a scythe—victims of unsanitary living.

such a way that a flow of water into its system is possible from such source or equipment.

2. Where private water systems involve the use of tanks the District's supply shall be made to discharge over the top of said tanks.

3. Where private water systems do not involve the use of tanks, the cross-connection shall either be eliminated entirely or protected by a double check valve system to be approved and suitably installed for convenient inspection and test. The installation shall be inspected and tested for its water-tightness at intervals of not more than six months, and reports of findings filed with this Board. The District shall be required by the Board to order out any installation found from these reports to the Board as not reliable in preventing the passage of the private supply into the public system.

4. *There shall be no new cross-connections installed between private water systems and the system of the District.*

5. The above measures shall be carried out by January 1, 1933."

Yours very truly,
GILES S. PORTER,
Director of Public Health.

RECEPTION ROOM, Y.W.C.A. BUILDING, SAN DIEGO
CLARENCE E. DECKER AND F. W. STEVENSON, ASSOCIATED ARCHITECTS

VICISSITUDES OF A YOUNG ARCHITECT

by

ELMER GREY, F. A. I. A.

The second of a series of four reminiscent accounts of the early architectural experiences of the author

AFTER a short stay in Florida I went to Philadelphia to consult Dr. S. Weir Mitchell, the eminent nerve specialist. He advised me when I got strong enough to go on a ranch for a year and gave me the name of one near Las Vegas, New Mexico, of which he had heard. Some physicians toss off advice of this kind as though it were such an easy thing to do that I will relate here at some length what my experience was in trying to follow it. Other young architects may then know better what they are up against if they think of trying it. Theodore Roosevelt was one of my heroes and he went on a ranch, thought I, which did wonders for him—but we are not all Theodore Roosevelts!—and ranches are not all alike!

When I got fairly strong I wrote to a ranch owner in Roswell, New Mexico, whom I knew, asking if he would take me in. His reply throws much light on the subject. "I should be more than glad to give you something of that sort if it were possible," he wrote, "but I feel that you misunderstand the nature of the place and the work there. The life is very rough, very dirty and food very hard for anyone but a tough cow boy to digest. The big pasture is about 15 miles from here and we keep up there only a small and very rough sort of place with about half dozen men. They are a good type for what we want of them but I must confess tremendously dirty, so much so that you could not possibly stand it to be with them in the same bunk house as you would have to be if you went out there to work. It is not a flossy place as some ranches are more or less when the owner's headquarters are right on the cow part. There is a great deal of misconception in regard to cow ranches and cow boys

ELMER GREY, YOUNG DRAUGHTSMAN ON A RANCH IN HOLLYWOOD, IN SEARCH OF HEALTH

and the 'Virginians' are few and far between. We don't intend to have the living out there any better than the usual cattle 'outfit' has in this country as it would never do at all. I am terribly sorry therefore that I cannot grant your request."

Balked in this endeavor to find what I wanted I decided to go to Las Vegas and investigate the ranch of which Dr. Mitchell had spoken. When I reached there I found that it was practically a boarding house situated in the midst of an uninteresting expanse of barren country with a goodly sum charged for the use of a horse; nowadays they are known as dude ranches. This did not appeal to me, and my funds would not have lasted long at such a place anyway.

Very much discouraged I was at a loss what to do next. At any rate I would not stay in Las Vegas I decided. But stupidly I had left home without a proper means of identification and when I tried to cash a check at the bank it was refused. I could stay there ten days they said until they wrote back and received a reply regarding identification! More discouraged than ever I sat down on a bench in a public square and told my troubles to the man sitting next to me. He eyed me critically for a moment and then said, "I am a judge in this town and have been living here for thirty years. I will endorse your check!" I was certainly grateful for that!—but still I did not know where to go. I did not want to go back. Browning's lines came to me:

"Who never turned his back, but
marched breast forward,
Never doubted clouds would break;
Held we fall to rise, are baffled to
fight better."

For want of a better thing to do I wandered down to the station to watch the overland train come through. As it stopped a newspaper woman whom I knew stepped off. After an interchange of greetings she exclaimed, "I am on my way to California, the land of sunshine and flowers. Better come along!" Immediately I thought, why not! Rushing back to the hotel, I hurriedly settled my bill, grabbed my baggage and we were off!

I've never regretted it! California was a paradise compared to barren New Mexico. I was muscularly strong now, and in knocking about to kill time while my nerves quieted into better shape I was placed in many amusing situations. First I went to Catalina Island where I stayed four months, swimming, rowing, playing tennis and fishing. At that time the principal hotel there was a wooden structure called the Metropole, and the guests from it as well as others from elsewhere who loved dancing frequented the one large pavilion which still stands. I bought a sail-boat and spent much of my time fishing, so during the day khaki clothes comprised my costume. One evening at the pavilion I requested an introduction to a young lady but was refused it because her chaperone was quoted as having said that I was a "boatman" and she did not care to have her charge meet that class of people! The next day I received a letter notifying me of my appointment on the Art Committee of the St. Louis Exposition. Of course I was unable to serve but they graciously sent me my commission which I should like to have shown to that chaperone!

My sail-boat capsized one day off Seal Rocks, a rugged, mountainous end of the Island which gets the full sweep of the wind across the Pacific. I managed to crawl on top of the upturned boat, but the wind was a small gale and I was blown in where the waves were curling menacingly over submerged rocks and the breakers dashing fiercely and high over other rocks constituting the shore line. It would have been impossible to land. Near by were launches but they could not reach me. They were, however, able to get near enough to call and advise me before it was too late to leave my craft and try to reach them by swimming. My boat was already striking the rocks when I left it and my water-soaked garments and shoes were a heavy drag. So when finally a rope was thrown me and I was pulled over the side I was just about all in!

Four months is a long time for one whose mind is active to stay on an island and play, and finally I tired of it. Besides I constant-

ly had in mind the advice once given me to go on a ranch. One evening I noticed an advertisement in a Los Angeles newspaper which read:

"Wanted, a ranch hand in Hollywood, $25. a month and board. Must know how to handle horses."

The next morning I crossed to the mainland to apply for the job. The accompanying photograph was taken a short time after and tells the story of my success in seeking outdoor employment.

(To be Continued)

OIL PAINTING OF CATALINA ISLAND BY ELMER GREY, ARCHITECT

CORNER OF LIBRARY, Y.W.C.A. BUILDING, SAN DIEGO
Clarence E. Decker and F. W. Stevenson, Associated Architects

SWIMMING POOL, Y.W.C.A. BUILDING, SAN DIEGO
Clarence E. Decker and F. W. Stevenson, Associated Architects

Sketches Abroad

and in

California

by

Carl Westdahl Heilborn

Hollywood

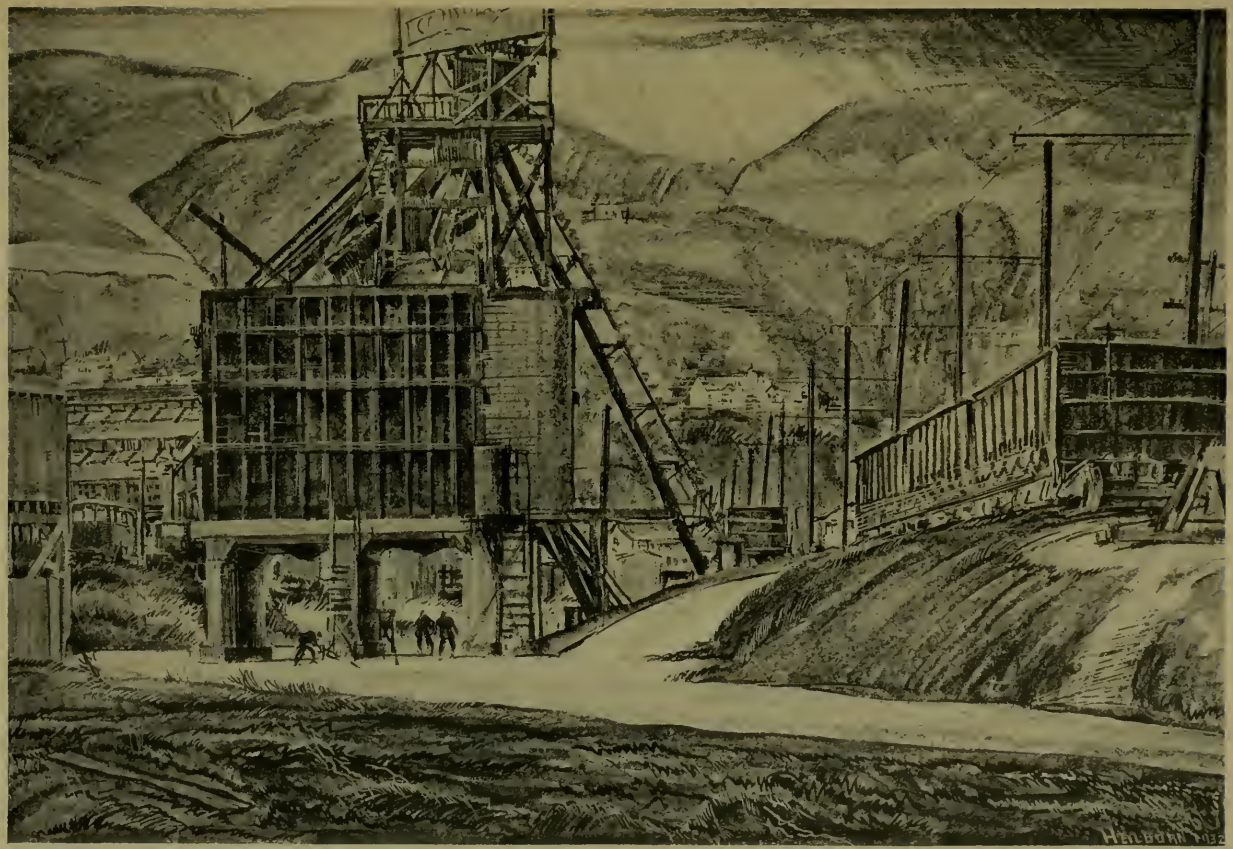
PLASTER AND TIMBER, SPAIN—PEN AND INK STUDY
By Carl W. Heilborn

NARROW STREET IN CONSTANTINOPLE— A STUDY IN CONTE CRAYON

By CARL W. HEILBORN

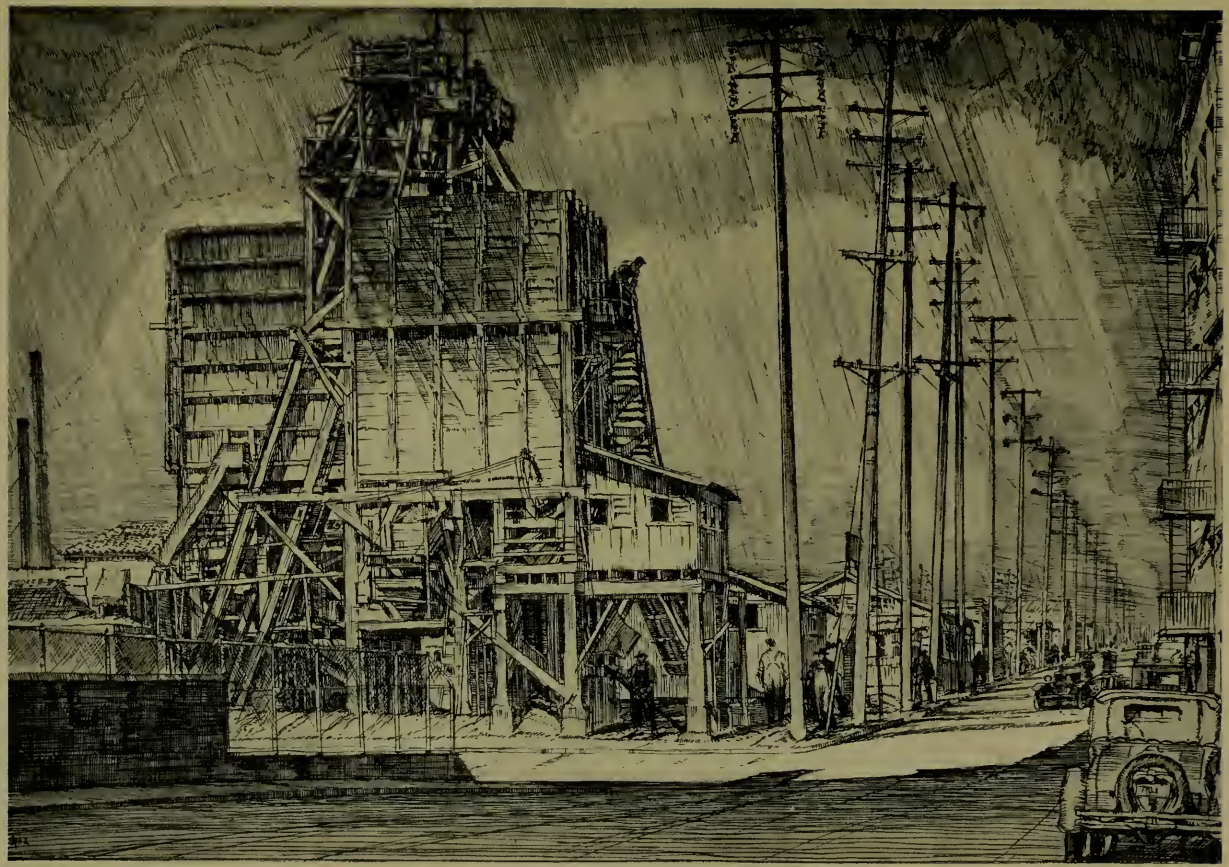
A STREET SCENE DONE RATHER FREELY WITH VERY LITTLE PENCIL LAYOUT BEFOREHAND

By CARL W. HEILBORN



HAZE COMING OVER THE HOLLYWOOD HILLS—A STUDY WITH LITHO-CRAYON, DRAWN OUT OF DOORS

By CARL W. HEILBORN



THE PILE OF WOOD—PEN AND INK AND WASH, DRAWN ALMOST ENTIRELY OUT OF DOORS
By CARL W. HEILBORN

HILLS OF HOLLYWOOD—A CONTE CRAYON STUDY, DRAWN OUT OF DOORS
By CARL W. HEILBORN

BREEZY AFTERNOON ON A CALIFORNIA RANCH—PEN AND INK STUDY, DRAWN OUT OF DOORS

By Carl W. Heilborn

ARCHITECTS MAY COLLECT FEES ON ABANDONED PROJECTS

A DECISION of interest to architects was recently handed down by the District Court of Appeals, Second District, Division 2, California, in the case of Robert B. Stacy-Judd vs. Charles Stone, R. W. Purpus, et al., (civ 7124) on appeal by the defendants from a judgment for $28,180.49 for archictectural services awarded the plaintiff in the Superior Court of Los Angeles county. Judgment of the lower court was affirmed. No appeal was taken to the Supreme Court and the Appellate Court decision is final.

The case grew out of a subdivision promotion in the hills back of Beverly Hills by the Beverly Ridge Company. R. W. Purpus, who died since the case was appealed, was the promoter. Extensive improvements were made on the tract and Mr. Stacy-Judd was employed to prepare plans for a number of large houses which the company proposed to build. Plans were made for about $1,000,000 worth of improvements which were abandoned for lack of funds. The architect was to be paid 7 per cent on the estimated cost of the work, 2 per cent of which was for supervision. He was paid $5,800 and brought suit to recover a balance of $28,180.49, based on a fee of 5 per cent for plans prepared.

The text of the Appellate Court's decision, written by Justice Ira F. Thompson, follows:

The plaintiff recovered a judgment against the defendants for architectural services rendered to them. R. W. Purpus, one of the defendants, prosecutes this appeal therefrom.

(1) The plaintiff pleaded a written contract consisting of a letter written by him to the defendants and an acceptance thereof by them. He also in a second count alleged an action in assumpsit. The camplaint set forth that respondent entered "upon the discharge of his duties and performed all the work, labor and services required of him" by the agreement. In neither cause of action, however, did he seek to recover the full stipulated price of 7 per cent upon the total cost of the buildings, but sought only the sum of 5 per cent because after entering upon the erection of the contemplated structures the work was abandoned. The court permitted respondent to testify over the objection of appellant that he told the manager of the copartnership "that the fees would be 7 per cent and that would include 2 per cent for supervision and that if the buildings were not actually constructed I should have 5 per cent of the estimated cost of constructing the buildings." He was also allowed to state that 5 per cent of the estimated value of the buildings was the reasonable value of his services, amounting in all to $34,180.49, and that it cost him to prepare the plans and specifications the sum of $28,000. Respondent had been paid $5,800 and judgment was in the sum of $28,180.49, together with interest and costs.

It is now claimed by appellant that the court erred in receiving the testimony al-

ready mentioned because he says such evidence tended to vary the terms of the written contract, was without the issues framed by the pleadings, and further that where the plaintiff pleads and proves an express agreement he cannot recover upon an implied contract.

Naturally enough, nothing is said in the letter of respondent constituting his offer nor in the acceptance thereof, concerning the abandonment of the plans and specifications. It is reasonable to assume that such a possibility was not in fact seriously, if at all, considered by the parties. It is true that the concluding paragragh of the letter says: "For each and every set of plans and specifications I prepare I am to receive a fee of two hundred dollars, at the time I am given instructions to proceed with the working drawings, said fee to form part of my total fees in the event of the buildings being erected." But this quoted language relates to the method of payment—not to the amount thereof. It provides for a down payment, or perhaps, as it might be termed in our profession, a retaining fee. Nor is anything further said in the offer or in the acceptance concerning the method of payment. It is to be observed that immediately preceding the language quoted the respondent said in his letter:

"In reference to the preparation of ten complete sets of plans and specifications for buildings costing in the neighborhood of then (sic) thousand dollars, I herewith submit my cost percentage on three residence buildings, showing you the basis upon which I now make my proposition of compensation.

"Schelling residence cost 83 per cent of total fee to produce.

"Worrell residence cost 55 per cent of total fee to produce.

"Bishop residence cost 76 per cent of total fee to produce. The last on the list is hillside property and shows a greater cost to me for preparing plans for hillside property."

From these figures in respondent's letter it appears that it cost him as an average 71 per cent of his fee to produce the plans and specifications. He, very apparently, thought that the defendants, who were the subdividers, should bear a part of this expense before the time arrived for payment in the due course of things and therefore provided for a retaining fee of $200. From the average percentage of cost calculated upon the figures submitted by respondent, plans and specifications for a $10,000 building would have entailed an expense to him (exclusive of supervision) of a trifle more than $355. We cannot assume that he was foolish enough to adopt the inherent improbable plan of spending that sum of money in return for $200. The most that can be said with respect to the concluding phrase, "said fee to form part of my total fees in the event of the buildings being erected," and the argument of appellant that only the sum of $200 was to be paid unless the buildings were completed, is that the language introduces an element of ambiguity and uncertainty which parol evidence was competent to explain. All of the evidence introduced bore upon the uncertainty in this particular or upon another theory about to be stated.

A reading of the first cause of action reveals that it is not an action to recover the contract price. The complaint alleges that all of the services to be performed thereunder were rendered by respondent and that they were of the reasonable value of the amount sought to be recovered plus that which was paid. It is disclosed by the evidence that the organization composed of defendants collapsed after the respondent had done twenty-eight or thirty sets of plans and specifications. Through the default of defendants and not from the failure of the respondent the buildings were not constructed. The complaint in the first count seeks therefore to recover not the contract price but damages for its breach, i. e., the reasonable value of the services rendered pursuant to its terms. It is conceivable that respondent might have brought his action to recover the entire contract price of 7 per cent upon the cost of the buildings under the authority of Harris v. Central Union High School District, 45 Cal. App. 669, 188, P. 617, and Havens v. Donahue, 111 Cal. 297, 43, P. 962; but he

chose rather to sue only for a part thereof.

(2) Advancing now to the argument of appellant that respondent having proved an express agreement could not recover upon an implied contract, what has been said virtually disposes of this contention. However, for the purpose of completely concluding the point, we here make reference to Havens v. Donahue, supra, where a somewhat similar contention was advanced. It is there said: "Defendant's first claim is that under such contract, plaintiff was only entitled to recover his commissions upon the cost of construction as far as the building had proceeded at the time his employment was terminated. This contention cannot be sustained. Plaintiff had nothing to do with the construction of the building. His contract was simply to furnish the plans, drawings, and specifications, and this he did. The actual construction and cost of construction are only material to him as fixing the amount of defendant's liability for the services rendered. Again, the complaint also charged upon a quantum meruit, and the court found the value of plaintiff's services at the amount fixed by the judgment. This would seem to dispose of any question upon such contention."

Judgment affirmed.

We concur; WORKS, P. J.,; FRICKE, Justice pro tem.

RECEPTION HALL AND STAIRWAY, RESIDENCE OF W. A. JOHNSON, SAN MARINO, CALIFORNIA
Henry C. Newton and Robert D. Murray, Architects

THE SMALL HOUSE OF THE FUTURE

by
L. E. OLSEN, Architect

THE small house of the future shall be made entirely of face brick inside and out, partitions, floors, stairs and cases. Colors and textures shall suit various room requirements, and enameled brick shall be used in the baths, laundry, and kitchen. I know that is what manufacturers and dealers want, and *not* in the future either, *but right now*.

Every manufacturer, engineer, architect, sculptor, and poet, is inventing new methods and materials for residence construction. There is nothing else for them to do; it is good mental exercise, and prevents insanity and high window jumping.

The trouble with each manufacturer is that he tries to use his material for the entire structure and often in the wrong place. Of course, if more of one material, or trade could be used in a building, some of our difficulties would be solved, and construction would be speeded up, as most of the time lost in residence construction is getting the trades on the job at the right time. We all know, however, that certain requirements demand their logical material, and even if you could fool the dear public, you cannot fool the elements for long. Brick has proven itself to be the ideal facing material for exterior surfaces. Ages of usage have proven it, and we are convinced that masonry for the exterior walls of a residence is the economical and proper material.

Savings in the cost of the small home of the future will not come from a change in the exterior wall materials used, but will come chiefly from the elimination of non-essentials in design, from shop fabrication of the interior and from lessened financing cost for the whole structure.

As I have before mentioned, there are a great number of new methods of construction, most of which have no merit; at least, the many we have investigated have little to commend them. But out of all of the experimenting and research, something good may develop, so it is necessary for all manufacturers to perfect their product and extol its method of use.

In Chicago there are experiments being made on reinforced brick masonry which make me believe we will have a cheaper and better method of construction and it will be all masonry. Its possibilities are unlimited and should give you gentlemen much food for thought as I personally think it is the greatest development in the art of building construction since the introduction of reinforced concrete. I can see the possibility of a precast brick slab delivered to the job with a finished surface having beauty and wearing qualities.

The Century of Progress Exposition in Chicago in 1933 will have on display a number of the new systems of home building, done in the modern style.

These, together with the design of the Exposition, may influence new residence construction. In what direction, no one knows, but my guess is that houses will continue to be built much the same as at present, excepting that the public is asking for lower costs, firesafe construction, permanent materials, less cracks and shrinkage, insulation, air conditioning, automatic heat,

Mr. Olsen is a member of the firm of Olsen & Urbain, Architects, Chicago. His remarks were made at a joint meeting of the American Face Brick Association and Dealers' Association, November 2, 1932.

with lower interest rates, financing charges, and reduced taxes.

Can we obtain lower cost through shop fabricated steel homes? First—the public does not want them, but it may accept them under pressure; second—their cost cannot compete with wood faced homes, to which class they belong in the economic scale; third—the cost of a brick residence having the same room dimensions as a steel house is the same as the hoped-for mass production cost of the steel house, of course using the same arrangement as the steel design, with no basement or attic, which are the places where the steel design effects the greatest saving. The steel house design advocates the elimination of unessentials, and with this idea, we agree.

When a designer or fabricator of a steel house or any other of the new types of construction starts to work out his problem, the first man he interviews is the insulation engineer. I have discussed the new methods of construction with many of the insulation experts and find that only one of the new types of construction has any merit and that type should be faced with brick veneer. My firm believes in solid masonry exterior walls. We contend it is the best, when all things are considered.

The three important arguments against the panel type of exterior are the joint at panel points, restricted design, and last but not least, labor unions. The labor unions are entirely forgotten in the shop-fabricated house and we all know they are not to be forgotten.

The cheapest of the small houses of the future, especially in the smaller towns and villages, will be wood. This form of construction is still the cheapest and permits individual design. The next step higher and all those above them will be masonry exterior walls, solid, or veneer on wood or steel frame.

In general, the future methods of construction will be much the same as present, but we think interior arrangement and materials making up the interior will be improved upon, cheapened, and simplified. Here shop fabrication can come into use.

We believe interior partitions will be improved upon and cheapened.

There will be more use of the combined door jamb and trim in metal, which will not be affected by moisture and will not open up at the corners and will speed up construction, at less cost. Lathing and plastering must go out of the small house. Those trades cause the greatest delay and trouble due to moisture in the construction of a building and in the north, in winter, temporary heat is required, with additional cost and bother.

When the masonry is finished and the building is under roof, the carpenter, with the use of some form of wall board, can continue right on erecting partitions, finish the walls with wall board and lay flooring before finished partitions are erected or after, and while erecting partitions, combined metal trim and jamb lining can be set up, and the walls are finished. Then unit cases, wardrobes, etc., may be set in without waiting for other trades.

The pipe trades could be ready with their roughing in by the time the roof is on and would not interfere with the finishing. With air conditioning or forced warm air, no radiator setting would be required after floors are finished. The public is demanding air conditioning; by this, we mean forced warm air, washed or filtered and humidified. Mechanical cooling is not necessary.

A national survey has been made investigating what women demand in homes, and the following are some of the findings: Just sufficient basement space to accommodate heating and laundering is required. These could be on the first floor near the If no basement these could be on the first floor, near the kitchen. They did not care for attic space but the roof must be insulated. Almost all the women wanted automatic heat; that is, oil burners, stokers, or gas. The women of the lower income families wanted separate dining rooms, while those who could afford homes costing $8,000 to $14,000 did not object to dining in one end of the living room or in an alcove.

My firm has just finished taking estimates on a house without basement, having concrete foundation only to a point 4'-0" below finished grade. The black dirt in-

side of building was excavated and removed and the ground then brought to a proper level with sand fill. Eight-inch masonry walls were used for the first floor, with mansard roof for the second floor, with very little waste space above the second floor ceiling. The building contained 22,500 cu. ft., and cost $8,000, or 35c per cu. ft. The brick masonry, including fireplace, cost $1,000, or one-eighth of the total cost. The supporting construction of the second floor is exposed 4"x10" beams in living and dining rooms. All finished walls are plaster wall board with armored joints. All exterior walls and second floor ceilings are insulated.

We have been experimenting, like others, in trying to cheapen the exterior walls, but we found it uneconomical to disturb this one-eighth part of the cost of the house. This proportion of masonry to total cost varies with different types of construction. Our clients are asking for fireproof or fire-resisting construction over the basement, and non-shrinkable construction for the second floor.

The difference in cost between wood joists with plaster ceiling and finished oak floor, and steel bar joists with concrete slab and finished oak floor, is 14c a square foot, or for a building the size mentioned above, the added cost for fire-safe construction would be $112.00. If steel nailer joists are used on second floor in place of wood joists, the added cost per square foot would be 7c per square foot, or $56.00 for the building mentioned above. If gypsum lumber is used in place of concrete, it costs 4c a square foot more than concrete. In the Chicago market there is a reinforced concrete precast slab and joists, obtainable up to 20' spans which can be had for about 4c per square foot more than steel joist and concrete. The battle deck floor with junior I beams costs 25c per square foot more than ordinary construction or $200.00 more for the building mentioned above.

Now one can readily see that wood joist construction is going to stay for the cheaper type home and steel bar joists for the better grade.

We have found the elimination of the basement saves 5 to 7 per cent, taking into account the added cost for laundry and heater space on the first floor. In larger homes our clients are asking for social rooms in the basement, and we have found that the only facing material that can stand basement conditions is face brick. We have tried other materials only to regret it.

It would be fine if we could eliminate some of the lost motion in small house construction. This we find is due to the number of trades required, 18 in all. This is where the shop fabricated house will give the standard house some stiff competition. However, it is not the masonry wall that causes the delay. The masonry walls on the above-mentioned building could be erected in three days with six bricklayers, and I would like to know of another trade that does more per dollar received than the bricklayer. It surely is one building trade that is nearest straight line mass production, with your mechanics working in a line, and always in sight of the boss. We believe the other portions of the building can be erected faster, as before mentioned by doing away with plastering and by simplifying the present methods and organization.

Regarding the style of our future homes, it is an indisputable fact that changes in architectural style in dwellings are less easily accomplished than in other buildings, because the home is regarded, and rightly so, a permanent and personal investment. The materials used in its construction must permit individual taste as to shape, texture and color.

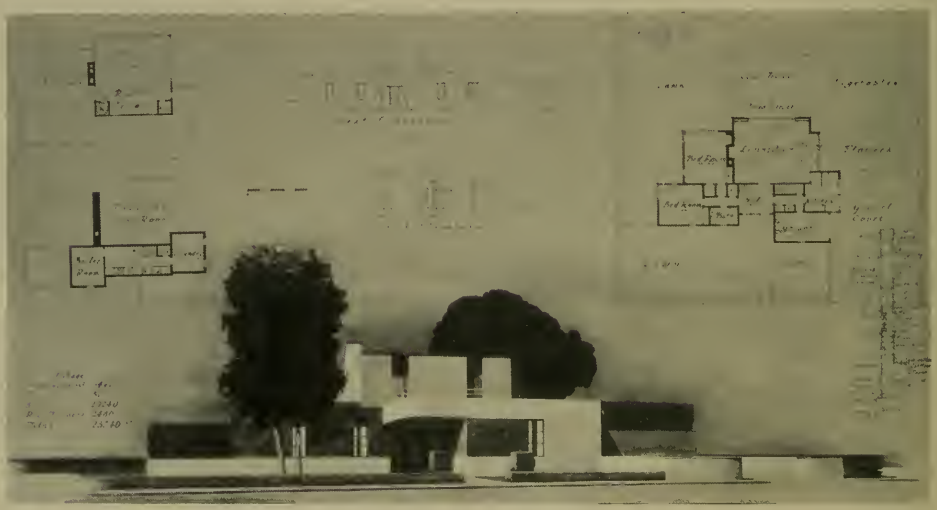
A national survey recently made proves that less than one-half of the homes in America measure up to a minimum standard of health and decency, so there is business ahead for all of us.

The high cost of owning one's home is not in the original cost but in the financing and carrying charges, taxation and special assessments. By reducing the financing charges one-half per cent for the five-year period and interest charges one per cent per year, the amount saved, for example, on a $5,000 five-year first mortgage on a $10,000 house, would be the equivalent of interest charges on more than $900, or more than

ten per cent of the original building cost, without lot.

For comparison, I will take another owner's tax on his home and compare it with mine on the same kind of house but in different counties near Chicago. His tax is twice mine and if set up as interest on capital, my home costs $3,300.00 less, or a saving of 16 per cent in the original cost. Now in the case of the other owner, if his house had been financed with a smaller finance charge and with a mortgage carrying 5 per cent interest and had been built in my county, the saving would be equal to 26 per cent of the original cost of that building. We can readily see the stumbling block for rapid return of small house construction under the present conditions, and no doubt these conditions exist in all industrial centers.

The magazines, newspapers, etc., are all full of new construction ideas, most of which have no merit, but they serve the purpose of keeping up the public desire for their home or improvements to their present home; and after the depression is over, the public will be convinced that a home built according to their income with a *reasonable* first mortgage is the safest and most logical investment and *that* new home will have *face brick* exterior walls.



THIS HOUSE HAS JUST BEEN COMPLETED AT THE WORLD'S FAIR, CHICAGO. It is designed to reflect modern tendencies in Domestic Architecture. Materials used are the latest product of science and craftsmanship. For elevation and detailed description turn to Page 74.

PUBLIC LIBRARY

ENGINEERING CONSTRUCTION

BIWAY PROMISES RELIEF FOR CITY TRANSPORTATION

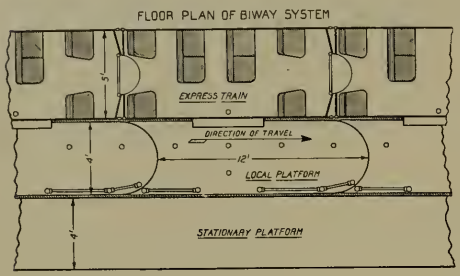
AFTER years of study a practical system of continuous high speed transportation for great masses of people has been evolved by Norman W. Storer, consulting transportation engineer of the Westinghouse Electric and Manufacturing Company. The proposed Biway system would replace individual trains making bursts of speed between stations with two continuous trains or belts of cars running on parallel tracks with a stationary landing platform along the entire route. It would eliminate jams at station stops, simplify operation, reduce noise and handle more people safely in less time than any transit system yet known. Compared to New York's new Eighth Avenue subway, the Biway could handle 28% more people per hour—205,000 passengers instead of 160,000.

Fundamentally the Biway is a development of the moving sidewalk idea in which two parallel traveling platforms or trains maintain continuous transportation service along a route lined by an arcade of shops and store entrances. It is a practical, workable method of preventing congestion by keeping crowds from forming. It appears to promise speed, comfort, safety, convenience and dependable operation.

Storer estimates the construction cost of the Biway at not more than two-thirds that of a subway. Operating and maintenance costs will be about 70 per cent that of a subway, in his opinion. He says the Biway will take less than 600 kilowatts of electrical energy per mile of one-direction service in rush hours. This uniform load, due to continuous operation, will be less than one-seventh of the peak power load required for a single 10 car subway train.

With 4,000 seats per mile of train, the express, traveling at an average speed of 20 miles an hour, carries 80,000 seats past any given point every hour. Put three seats on each local car and you increase this number to 91,000 seats an hour. The Interboro, Seventh Avenue, subway in New York, furnishes only 24,500 seats an hour past a given point, says Storer. With 58,200 standing passengers, the total capacity would still be 8,000 an hour less than the number of seats on the Biway.

Each car is 12 feet long. Ends are curved so they will move around sharp curves without separating. There is only one pair of wheels under each car, this being placed near one end. The weight of the free end is carried by the wheels of the next car. Tracks are greased to lessen the noise and there are no brakes or loose parts to rattle.



Driving motors are stationary beneath the tracks at intervals of about 1,000 feet. This greatly reduces another operating noise. Running lengthwise beneath each train is a "T" section, the flange of which runs between driving wheels of the motors. Operation of the entire system is so timed that the stopping and transfer intervals are positive and automatic. Error is impossible.

Control buttons or switches at each power station and at frequent points along the route enable attendants to stop the system instantly in case of emergency. Protecting gates, gong signals and other automatic devices practically eliminate all chance of accident. Since both trains and the stationary platform are continuous, it is impossible for a passenger to fall off and get under the wheels. Car floors cover the entire track space.

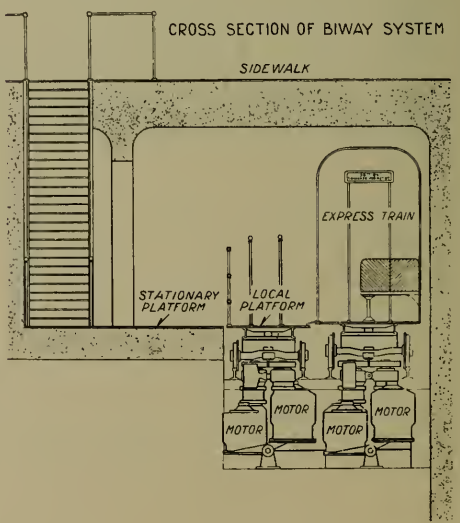
The wheels do not do the driving. Axles carry longitudinal "T" rails, the flanges of which run between vertical shaft rollers or drive wheels at power stations located every 1,000 feet along the route. These stations are like stationary locomotives and are in pits beneath the tracks.

Sets of motors propel the drive-wheels which are pressed against the flanges of the "T" rails. It is purely an adhesion drive. Any motor can be replaced when necessary without interrupting service. By shutting down the system from 2 a. m. to 6 a. m. daily, other replacements can be made but the simplicity of the construction and the speeds of the trains will reduce this maintenance to a minimum.

Resilient type of track construction will be used to lessen maintenance and to cushion shocks and deaden noise. Greasing the rails will make for quiet operation. There will be no screeching on curve and very little flange noise. Wheel loading will average 1,500 pounds, never more than 2,500 pounds. No switches, crossings or other special work. Just plain tracks, banked on curves with loops at the ends of the line. Trains will operate at the same maximum speeds at all points.

There are two sets of driving motors at each station. In each set two 50-horsepower motors and two 100-horsepower motors drive the express train at each power station. The 100-horsepower motors drive the local from each power application. This gives a total of 5,000 horsepower of motor capacity per mile for the two platforms. However, the arrangement of the motors is such that not more than 750 horsepower will ever be taken from the outside line.

All stations are controlled from one central control point and the entire system, starts, stops, signals, gates and speeds are



ARCHITECTS' VISUALIZATION OF BI-WAY SYSTEM TO RELIEVE CONGESTION IN OUR LARGE CITIES

so timed and synchronized that operation is infallible.

Engineering features prevent the loss of considerable power. As the local slows down for a stop it gives up power to the express, which is increasing its speed at that portion of the cycle. When the local is picking up speed to match that of the express, the latter is slowing from 22 to 17 miles an hour and gives power it no longer needs back to the accelerating local. No energy is burned up in brake shoes.

Working at its maximum capacity, the Eighth Avenue subway, New York, with 10-car trains on both tracks, 280 passengers per car, 32 trains an hour on the express track and 25 on the local, could seat only 34,200 past any given point in an hour, according to Storer. The Biway will almost triple that figure.

It is estimated that the time spent on the average ride will be five minutes less than on the subway. Frequent entrances will take people off the street more quickly and distribute them with the same speed. Walks at each end of the ride will be shortened because one can always have the local platform within 300 feet of any desired point.

Entrances from the street will be at intervals of 100 yards or less. Those for the subway express trains are a mile apart. The Biway will also have entrances from practically every building along its route. An average ride on the Biway will consume five minutes less time than the same ride on the subway, counting time from starting point to destination.

Frequent entrances and frequent stops will move dense crowds more rapidly than

is possible with present systems. There will be no danger of injury to passengers.

Construction details and possibility of sound-proofing will make the Biway comparatively quiet in operation. Beneath city sidewalks, it will greatly increase the value of basement rooms. At other levels, it will produce corresponding increases by adding to the usefulness of the floors at those levels.

Although no such systems have been built and no descriptive literature is available, Norman Wilson Storer, consulting railway engineer for Westinghouse, who has spent several years evolving the Biway system, explains some of its essential features.

First there is a continuous stationary platform entirely around the loop served by the system. Next to this platform is the local or transfer platform, also continuous, which stops to receive passengers every 50 seconds. Between stops it reaches a speed of 17 miles an hour, the speed of a second continuous platform known as the express train.

Passengers board the first of the moving platforms or belts of cars at any point. When it is moving at the speed of the second parallel platform, gates open and they enter the express where they remain for the trip. Between its meetings with the local platform, the speed of the express increases to 22 miles an hour. It never stops. There is a loading and a transfer every 50 seconds. Since each of these movements lasts 10 seconds, no one ever waits for a train more than 40 seconds.

Storer points out that the Biway is adaptable to any location where continuous transportation is desired. Where distances are short, cost of operation may be still further reduced by lowering the speed of the trains. Located under sidewalks the new system will make a continuous arcade of all stores along its route.

GRINNELL JUNIOR SPRINKLER SYSTEM
SPELLER ALARM VALVE
WIRE ELECTRIC ALARM
SPRINKLER SYSTEM TIE IN TO DOMESTIC SUPPLY
DOMESTIC WATER SUPPLY LINE

FIRE SPRINKLER PROTECTION DESIGNED FOR RESIDENCES, SCHOOLS, CHURCHES AND CLUB BUILDINGS

NEW LOW COST FOR AUTOMATIC SPRINKLER SYSTEM

AN examination of carefully maintained records of insurance underwriters disclosed two very significant facts. First, that residential fire losses in the United States are increasing. For example, such losses in 1928 were approximately $125,000,000; in 1929, approximately $140,000,000; and in 1930, all over $150,000,000. Second, that approximately half of the disastrous fires in dwellings originate in basements. Coupled with this is the fact that another vast annual fire loss occurs in small mercantile buildings, and in smaller schools, hospitals, hotels and similar institutions where the size of the building does not justify a full investment in structural or mechanical fire protection.

Significant to this situation is an announcement recently made by Grinnell Company, Inc., Providence, R. I., of its "Junior" sprinkler system, which includes all the vital elements of standard sprinkler protection. Each element, however, has been especially designed for ease of installation, efficiency of operation, and economy.

Automatic sprinkler protection has been proved over many years as the best form of fire protection for large structures. Now it is available for existing and new residences, and for small buildings of all types. The cost is amazingly low. For the protection of a residence basement the cost installed will range from $65 to approximately $100.

The system itself, as shown in the accompanying illustration, consists of a flexible copper tubing attached to the domestic water supply. On the tubing at proper intervals there is mounted a specially designed sprinkler head. The system also has an alarm feature which is provided by a compact brass alarm valve. This system can be extended to other points of hazard in the residence, such as kitchen, attic or garage, at very little additional cost. Once installed it is constantly ready for operation, but there is no maintenance cost. Thus when the owner makes this small investment he materially reduces the fire hazard because it is impossible for fire originating in the protected areas to spread sufficiently to cause any material damage.

The system is equally applicable to fire hazards in smaller apartment buildings, mercantile occupancies, and small hospitals, schools, churches and clubs. The manufacturers state that this is the most economical and efficient form of fire protection yet made available to owners of small buildings of any type. The installation can be made in a few hours by local plumbers.

« « « « With the Architects » » » »

S. F. ARCHITECTURAL CLUB

San Francisco Architectural Club held its 31st annual hi jinks the night of December 10th. The entire program was conducted by the National Broadcasting Company talent. The festivities concluded with cabaret dancing and refreshments. There was a large turn out in spite of the depression, the boys wishing to forget their troubles for a night at least.

At the regular meeting of the club December 7th Harold Wagner gave an interesting talk with the aid of lantern slides on his recent trip to Europe. At the business session officers for the ensuing year were nominated.

The club members have been discussing among themselves the considerable sums of money now being spent by the San Francisco and East Bay architects for publicity work. Many think this an inopportune time and feel that much of the money thus expended could be used as a fund to aid the many architects and draftsmen out of work and in sore need of financial assistance.

JAIL PLANS COMPLETED

Plans and specifications have been completed by Albert F. Roller and Dodge A. Riedy for the proposed new County Jail to be built near San Bruno for the City and County of San Francisco. Funds amounting to $800,000 are available. Because Messrs. Roller and Riedy were employed to prepare the plans on a six percent commission basis, Adolph Uhl complained to the Supervisors that a considerable saving could have been made had competitive bids for the work been received. Mr. Uhl probably is not aware of the fact that architects do not publicly bid against each other for work, such procedure having long since been deemed unethical.

CHRISTMAS JINKS

The second annual joint Christmas Jinks dinner given by the Producers' Council Club, American Institute of Architects and State Association of California Architects, was held at the Engineers' Club, San Francisco, Wednesday, December 21. Santa Claus gave out presents galore and a most enjoyable evening was spent.

SHOW SKETCHES TO UNIVERSITIES

Ralph Bishop, in the office of Sutton, Whitney & Dugan, Tacoma, Wash., whose intimate sketches have been published from time to time in THE ARCHITECT AND ENGINEER, recently paid a visit to several of the northern universities in company with P. G. Ball of Tacoma. Mr. Bishop took with him his sketches of Venice and studies of Tress, also Mr. Ball's book of London, and they were exhibited two days each at Washington State College in Pullman, University of Idaho at Moscow and in Graham's auditorium, Spokane. The exhibits attracted quite some interest among the students and others and were of considerable educational value, according to a letter from Mr. Bishop addressed to the editor of this magazine. Some more of Mr. Bishop's clever sketches will be published in the near future.

WILLIS POLK & COMPANY BUSY

The office of Willis Polk & Company, San Francisco, is busy preparing plans for several large residences in the Peninsula District, including a $20,000 Spanish house in Hillsborough for Lloyd C. Simpson; a $20,000 English dwelling in the Carolands Tract, Hillsborough, for C. C. Young, and a $12,000 Spanish Colonial home in Hayden Road, Hillsborough, for Hugh L. Clary. Quite a few lovely homes have been built by this firm down the Peninsula during the past two or three years, and it is planned to show photos and plans of these in an early issue of THE ARCHITECT AND ENGINEER.

LOSES VALUABLE SKETCH

One of Wm. Woollett's Hoover Dam sketches, a number of which have been published in THE ARCHITECT AND ENGINEER, and have aroused considerable favorable comment, was recently stolen from the Art Commission room in the Los Angeles City Hall, where it was on exhibition. The etching, valued at $200, shows the Six Companies' concrete mixing plant at the Hoover Dam site. A reward will be paid for information leading to the recovery of the sketch.

MARKET BUILDINGS

The Henslee Corporation, which has been operating in Southern California and has built more than fifty market buildings in that section of the State, will divide its activities in Northern and Central California the coming year. It has had plans prepared for a $10,000 market in Richmond by H. A. Minton and a $100,000 building at 20th Street and Telegraph Avenue, Oakland. The preliminary plans for the latter have been drawn by H. C. Britt, 366-17th Street, Oakland, which address is the temporary headquarters of the Henslee Corporation. Some thirty or more market buildings are planned for San Francisco and the Bay region.

RESIDENCE CONTRACT

A contract has been awarded by Henry H. Gutterson, architect of San Francisco, for the erection of a two story frame and stucco residence in Avalon Court, Berkeley, for Thomas Telfer. The owner recently sold his beautiful English home in the Claremont District, the plans for which were made by William Schirmer. The new Telfer home will cost in the neighborhood of $20,000.

BAY BRIDGE BEING FIGURED

The first unit of the new $75,000,000 San Francisco-Oakland Bay Bridge is out for figures, bids to be opened by the State Department of Engineering on February 2nd. The work will consist of five reinforced concrete piers and the estimated cost is $9,000,000. Many contractors from all sections of the United States have asked for plans and specifications.

ENGLISH HOME

Plans have been prepared by Edwin L. Snyder, architect of Berkeley, for an English home on Shasta Road, Berkeley, for J. F. Pearce, sales manager of the Smith Lumber Company. The house will cost approximately $5000.

Mr. Snyder has also prepared plans for a one story Class C store building in North Oakland, estimated to cost $10,000.

PARAFFINE FACTORY ADDITION

The Paraffine Companies, Inc., has had plans prepared by its engineer, Leland S. Rossener, 233 Sansome Street, San Francisco, for a one story steel, concrete and hollow tile inlaid linoleum factory at Emeryville. Twenty-eight general contractors figured the work.

OIL SERVICE STATIONS

The several major oil companies have appropriated funds for a somewhat pretentious building program the coming year. The Shell Company alone, it is understood, will spend $400,000 for new stations in Northern and Central California. Some twenty-eight locations in the East Bay section will be improved, it is announced. These stations will vary in cost from $3500 to $7500 each.

The Standard Oil Company is also planning an extensive building program.

MODESTO MORTUARY

Plans have been completed in the office of Russell Guerne De Lappe, 374-17th Street, Oakland, for a $50,000 reinforced concrete mortuary for the Shannon Funeral Company in Modesto. Besides a chapel, there will be a casket display room and garage. The building will have a terra cotta tile roof. The same architect has prepared preliminary drawings for a frame and stucco residence in Santa Rosa.

IN MEMORY OF MR. HOWARD

The alumni of the Department of Architecture, University of California, paid its respects to the memory of the late Professor John Galen Howard on December 11th with the setting of a memorial tablet in the pavement of the Campanile Esplanade, on the University campus, Berkeley.

Following the dedication those present viewed an exhibit of Mr. Howard's sketches at the Architecture Building.

OFFICE AND WAREHOUSE

Martin Stelling, Jr. is the owner of a one story, reinforced concrete warehouse and office building, to be erected at 6th and Bryant Streets, San Francisco, for the Russia Cement Company. The estimated cost is $15,000.

FEDERAL OFFICE BUILDING

Plans for the $300,000 Federal office building in the San Francisco Civic Center by Arthur Brown, Jr., have been finally approved at Washington, and contracts are expected to be awarded within the next thirty days.

SAN MATEO RESIDENCE

Chester H. Treichel of Oakland, recently completed drawings for a two story, eight room Spanish residence on Virginia Avenue, San Mateo, for Milton J. Hallahan.

SPRING GARDEN CONTEST

A contest for the design of the 1933 Spring Garden Show is announced by the Board of Directors. According to Abe P. Leach, president of the board, valuable cash prizes are offered to winners in the competition which is open to properly qualified landscape architects, engineers, artists and students of garden design throughout the State. A total of $275 has been set aside as cash awards.

The success of the Garden Show has been due in a large measure to the adherence to the motto of the organization, "A cooperative effort." In speaking of the forthcoming competition, Howard Gilkey, director of the show and designer of the previous presentations, said, "It is our purpose to carry the idea of cooperation and friendly rivalry into every phase of our activities. Hence, we are giving this opportunity to all the landscape architects and garden designers of the State."

Many new and interesting features are being planned to make the forthcoming production better than the last one, which was heralded as one of the most successful displays held in the entire country. The official tabulation of paid attendance was 50,500.

Rules of the competition will be those prescribed by the American Society of Landscape Architects. The Pacific Coast Chapter of that society is actively sponsoring the contest, with Professor John W. Gregg, head of the division of Landscape Design in the University of California, as professional advisor and chairman of the committee. Other members are Frederick N. Evans, City Landscape Architect of Sacramento, and Thomas Vint of the National Park Service.

All persons desiring to compete should communicate in writing with Abe P. Leach, Tribune Tower, Oakland, California.

RECONDITIONING WORK

The office of George W. Kelham, San Francisco, has completed plans for reconditioning the Class A Balfour office building on California Street, San Francisco, the work to include painting, waterproofing, etc. Similar improvements are planned for another San Francisco office building by G. A. Lansburgh, architect.

GARDNER DAILEY BUSY

New work in the office of Gardner Dailey, 210 Post Street, San Francisco, includes alterations and additions to an English home, Woodside, San Mateo County, for Mrs. Paul Fay, and brick veneer stables and garage at Woodside for George Whittell, Jr.

MODERN ARCHITECTURE

That the San Francisco Bay Region, long distinguished for its Old World charm and unsurpassed natural beauty, is rapidly taking on in its skyline the aspect of the new world architecture, was illustrated by Sheldon Cheney, authority on modernism, in a discussion of "Modern Architecture," at Guild Hall on the campus of the California School of Arts and Crafts, in Oakland.

Mr. Cheney's recent survey of the modern architecture of Europe, together with his personal contacts with the leading architects abroad and in America gave added interest to his lecture.

Color renderings were shown of examples of modern architecture in the Bay Region. Included in this collection were the Telephone Building of San Francisco, the Stock Exchange Luncheon Club, 450 Sutter Street, and the Paramount Theater of Oakland. Unusual examples illustrating the conformity of modern architecture to the new scientific principles of construction and living today were exhibited through the courtesy of Timothy L. Pflueger, of Miller & Pflueger, architects of the buildings mentioned above.

THANK YOU!

Editor THE ARCHITECT AND ENGINEER:

Permit me to congratulate you on your splendid issue of last month showing the San Francisco War Memorial group. To me it seemed the number was without a flaw — articles were excellent and illustrations the best I have seen anywhere. The photographs were all artistic, and particularly interesting and lovely, was the glimpse of the opera house facade through a window in the City Hall.

San Francisco, and the entire Pacific Coast for that matter, may well be proud of its ARCHITECT AND ENGINEER magazine.

Sincerely,

G. ALBERT LANSBURGH, A.I.A.
San Francisco, California.

SAN JOSE THEATER

Frederick H. Reimers, architect of San Francisco, has completed plans for a $35,000 moving picture theater in San Jose for the Liberty Amusement Company. He also has prepared plans for two residence-apartments in San Francisco.

SAN JOSE HOME

Charles H. McKenzie, Twohy Building, San Jose, prepared the plans for a two story frame and stucco residence to be built on 7th Street, San Jose, for Mrs. Emily Kaiser for $4500.

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COMPETITIONS FOR ROME PRIZES

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, sculpture and musical composition.

In architecture the Daniel H. Burnham fellowship is to be awarded, and in landscape architecture the Kate Lancaster Brewster fellowship.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1250 a year with an allowance of $300 for transportation to and from Rome. Residence and studio are provided without charge at the Academy, and the total estimated value of each fellowship is about $2000 a year.

The term of each fellowship is two years in architecture and landscape architecture and three years in painting and sculpture. Fellows have opportunity for extensive travel and for making contacts with leading European artists and scholars.

The Grand Central Art Galleries of New York City will present free membership in the Galleries to the painter and sculptor who win the Rome Prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until February 1. Circulars of information and application blanks may be obtained by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York.

CHURCH ARCHITECTURE

The eleventh annual session of the North American Conference on Church Architecture will be held in the Stevens Hotel, Chicago, February 23, 24 and 25, simultaneously with the *Christian Herald* annual exhibit of ecclesiastical architecture. The program will include discussions of significant aspects and trends of present-day church design, a forecast of American church building, discussion of church modernization, the modern development of historic styles in church design, and the relationship of church building to city planning. There will also be scheduled visits to outstanding ecclesiastical buildings in Chicago and the annual *Christian Herald* dinner to architects, pastors and laymen of churches contemplating building programs and others interested in church building.

The display of ecclesiastical architecture, which has for several years attracted considerable attention, will be notable. Architects who have done church work which they feel merits notice, are invited to correspond with Wayne D. Miller, Church Building Service Dept., *Christian Herald*, Chicago, Ill.

CONTRACTORS FILE SUIT

In a suit on file in San Francisco Superior Court, three San Francisco contractors seek damages amounting to $65,067.50 from the Columbia Casualty Company, alleging that failure of the company to deliver a bond after they had complied with its requirements caused them to lose a $650,675 government contract for buildings at Hamilton Field, Marin county.

The contractors are J. D. Hannah, J. S. Sampson and Seabury B. Peterson.

On June 20, they allege, they submitted bids to the United States Government for construction of barracks, warehouses, shops and other buildings at Hamilton Field, the job aggregating $650,675. The bid was accepted by the government June 21.

On August 16, according to the complaint, the contractors entered into an agreement with the Colombia Casualty Company whereby the company was to provide a bond for faithful performance of the work, as soon as the contractors had deposited $20,000 with the Canadian Bank of Commerce, to be used as working capital, drawn on jointly by the contractors and the surety.

The stipulated amount was deposited in the bank August 18, the plaintiffs say. According to their agreement with the government, the bond was to be delivered when the contract was signed.

The casualty company, it is alleged, then refused to deliver the bond.

When the bond was not delivered by August 20 the government ruled that the contractors were in default, and cancelled the award.

Performance of the work would have cost them $585,607.50, the plaintiffs assert. By losing the contract they lost a profit of $65,067.50, the amount they seek to recover from the casualty company.

DECISION FAVORS ARCHITECTS

The right of an architect to collect for the use of plans prepared, although such plans are not finally used by his client, was again upheld by a decision in the San Francisco municipal court on November 28.

Judge Joseph M. Golden held in favor of the plaintiff in the case of a suit brought by Italo Zanolini, architect, against Alfredo Rossi. Zanolini was given a judgment of $588.60 and costs when it was shown he had prepared plans on an order by Rossi.

The case involved preliminary work done on a projected commercial market. Subsequent plans and specifications prepared by another man were accepted by Rossi and the building was erected under the latter's supervision. Zanolini thereafter sued to collect his fee.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

Note New Wage Scale

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in	$ 68.00 per M
4x12x12 in	76.50 per M
6x12x12 in	105.00 per M
8x12x12 in	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" ..... $ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $18.00 per M (average).
Common O.P. select, average, $22.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	42.00 per M
1x4 No. 2 flooring	36.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$30.00 per M
1x4 No. 3 flooring	26.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.
1 1-16x2¼" T & G Maple	117.00 M ft.
⅞x3½ sq. edge Maple	110.00 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead In Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$ .90 lineal foot
8-inch	1.30 lineal foot
10-inch	1.50 lineal foot
12-inch	1.75 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped) .17
2.5-lb. metal lath (galvanized) .20
3.4-lb. metal lath (dipped) .22
3.4-lb. metal lath (galvanized) .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel. $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural
$78 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $71 to $75 per ton cost of steel; average building, $77.00.

Steel Reinforcing—
$68.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Sperial Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it haa been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

Chapter and Club Meetings

NORTHERN CALIFORNIA CHAPTER

In observance of "University Night", the Northern California Chapter conducted its regular meeting at the University of California, in Berkeley, on Tuesday evening, October 25, Henry H. Gutterson, presiding.

Dinner was served at the Faculty Club at 6:30.

Mr. Gutterson announced that it was the annual meeting of the Chapter and proceeded with the prescribed order of business.

In his annual address the president outlined the activities of the Chapter and the board of directors during the past year.

In the matter of a $250 loan, granted by the Directors for the expansion of Architecture and Building Weekly, it was voted that the borrower be released from payment and that the money be credited as an expenditure in pursuit of propaganda work.

Mr. Evers explained the intent of the Educational Fund and his belief that this account should be used solely for scholarships or other distinctly educational purposes.

There being no unfinished business, the next procedure was the election of officers, which resulted as follows: John J. Donovan, president; Raymond W. Jeans, vice-president; James H. Mitchell, secretary-treasurer; Henry H. Gutterson, director, two years; Roland I. Stringham, director, three years; George R. Klinkhardt, director, three years.

Following his election as president, Mr. Donovan accepted the chair and asked Mr. Ashley to present the following resolution, which was unanimously approved:

Whereas, Our retiring President, Henry H. Gutterson, has brought to the administration of this high office rare qualities of gentleness, firmness, human understanding, unselfish devotion, unremitting zeal and broad vision; and

Whereas, All of his actions have reflected great credit on the American Institute of Architects and this the Northern California Chapter thereof; therefore

Be it Resolved, That we, the Northern California Chapter, the American Institute of Architects, in annual meeting assembled, do hereby express our sincere appreciation of and gratitude for the above mentioned qualities and actions of our retiring President, Henry H. Gutterson; and be it further

Resolved, That the Secretary of the Chapter be requested to inscribe these Resolutions in the minutes of the meeting, verbatim, and that he be requested to transmit a copy of these Resolutions to our honored retiring President, Henry H. Gutterson.

There was no further business and the meeting adjourned, to reassemble at the Architecture Building, where the members were welcomed by Warren C. Perry, Director of the School of Architecture, members of the faculty and students.

Here, a pleasant feature was the presentation of a scholarship to Malcolm Smith.—J. H. M.

ENDORSES WAGE SCHEDULE

Northern California Chapter, A.I.A., has given its endorsement of the wage scale and findings of the Impartial Wage Board and has passed a resolution urging all architects to include the wage scale in future specifications and building contracts.

John J. Donovan, president of the Chapter, in urging the adoption of the resolution said: "Members of the Chapter can aid materially in adding to the stabilizing effects of the Impartial Wage Board's award by guaranteeing payment of the wages through inclusion of the wage board's schedule in all specifications and contracts. San Francisco's unique wage-setting procedure has commanded universal interest. The co-operation of the architects in aiding the Industrial Association to guarantee observance of the award will tend to insure both the continuance of this procedure and stability of building conditions which all recognize as essential."

W. S. Dinwiddie, a member of the Impartial Wage Board, addressed the meeting and pointed out that in view of the lack of employment, contractors, owners and architects must do everything humanly possibly to see that justice is done to the mechanic.

The resolution follows:

"Whereas, the Impartial Wage Board met and established a minimum wage for the ensuing year, therefore be it

"RESOLVED that this Chapter express its approval of the findings of the said Impartial Wage Board, and request each of its members to place a clause in their specifications, that wages for labor be paid in accordance with said findings."

SOUTHERN CALIFORNIA CHAPTER

Southern California Chapter, American Institute of Architects, at its November meeting, nominated for re-election the following officers: Gordon B. Kaufmann, president; Sumner M. Spaulding, vice-president; Palmer Sabin, secretary; Paul J. Duncan, treasurer, and Carleton M. Winslow, director for the two-year term.

Robert H. Orr, president of the State Association of California Architects, reported on matters that came before the Association's annual meeting at Del Monte recently, pertaining to the restriction of the services of governmental architectural bureaus to maintenance and supervisory duties. A motion was adopted whereby this question will be brought to the attention of the next Chapter meeting for action as to the furtherance of the program.

Charles H. Cheney made a report on "Slum Clearance and Low Cost Housing as an Aid to Recovery." Mr. Cheney is chairman of a special Chapter committee which was recently appointed to cooperate with a national committee appointed by the Institute, with Robert D. Kohn as chairman, for the purpose of stimulating building and securing building funds from the Reconstruction Finance Corporation.

The "Honor Awards" committee suggested that this year's program be similar to the program held last year, selections for awards to be made in February.

A vote of thanks was extended to William Richards for his work in preparing a document setting forth the architects' code of ethics.

Gordon B. Kaufmann, president of the Chapter, introduced Royal W. Lescher of Phoenix, Ariz., and Edgar F. Bizzantz of Pasadena, both of whom are new members.

OREGON CHAPTER MEETING

The regular monthly meeting of Oregon Chapter, A. I. A.,, was held November 15 in the office of A. E. Doyle & Associates, Portland. Those present were Messrs. Doty, Aandahl, Hemenway, Wallwork, Sundeleaf, Jones, Johnson, Holford, Jacobberger, Parker, Brookman, Logan, Herzog, Johnston and Crowell.

Messrs. Parker and Herzog, representing the Committee on Public Works, submitted a preliminary report on the market site question which was followed by a lengthy informal discussion.

Mr. Aandahl reported on the noon meeting of the Oregon Building Congress, at which Architect Kroner submitted and explained the proposed State Building Code, on which a joint committee of American Institute of Architects and Registered Architects has been working.

It was moved, seconded, and carried, that a special meeting be held Monday, November 21, to act upon the report of committees working on the State Building Code.

On motion of Mr. Holford, seconded by Mr. Parker, the Building Laws Committee was instructed to confer with similar committees, or representatives, of the Registered Architects, Oregon Building Congress, and the Building Material Dealers Credit Association, on the revision of the State lien law.

It was moved and passed that a letter be written to the American Institute of Architects headquarters asking that dues be reduced in an effort to retain present membership. The executive committee was empowered to authorize the treasurer to expend, or loan, small amounts for the relief of needy architects and draughtsmen.—W.H.C.

WASHINGTON STATE CHAPTER

The regular Chapter meeting for November was held in the Gold Room of the New Washington Hotel, Seattle, on the evening of Thursday, November 3.

The secretary read a letter from William O. Ludlow, chairman of the Institute Committee on Industrial Relations, stressing the desirability of the Chapter's promoting cooperation with the other elements of the building industry through the formation of a Building Congress. Harlan Thomas mentioned for consideration the holding of a joint meeting with the Seattle Chapter of the Associated General Contractors as had been held in previous years.

A letter was read from Louis LaBaume, chairman of the Institute Committee on Public Works, relative to the attitude of the administration and Congress on new building construction and the employment of architects in connection therewith. Following this, President Holmes reported on the work of the Washington Architects Incorporated; reading correspondence with Assistant Secretary of the Treasury Ferry K. Heath, and local representatives to Congress, relative to the employment of local architects.

Mr. Albertson, chairman of the committee on the proposed Chapter By-Law Revision to create a tax on salaries and consultation fees in addition to the existing tax on commissions, reported inability to have a full meeting of the committee on account of the illness of one of its members. The two members who had met proposed the increasing of the limit of exemption to $2,500, and this was given as a report of progress. On Mr. Albertson's motion definite action by the Chapter was deferred to a subsequent meeting.

Victor Jones, in reporting for the Chapter Committee on Public Information, of which he is chairman, made a plea for more material for the illustrations of future building projects which were being presented in the Seattle *Times*. Mr. Aitken, chairman of a special committee to investigate the copying of plans filed with the Seattle Building Department, reported that the committee had written and interviewed Mr. Gaines, head of the department, which had finally resulted in a letter from Mr. Gaines to the effect that it was not practicable to return the plans to the architects who had filed them, as had been suggested.

A letter was read from A. M. Young, giving information regarding violations of the Seattle Building Code in the erection of apartment houses, a matter to which he had given consideration during several former city administrations in conjunction with the Association of Apartment House Owners. After some discussion it was voted that a member of the Chapter be appointed to act with the Apartment House Owners Association in taking up this matter with the building department.

The business session being concluded, Donald Thomas, chairman of the Program Committee, took charge of the meeting and introduced Arch Torbitt, who, after a brief reference to his connection with a proposed Pacific Northwest Exposition, introduced B. R. Perkins, the speaker of the evening. Mr. Perkins gave an interesting account of a vast Pacific Northwest exposition project which he called the "Beaver Centennial", explaining the plan for financing and exploitation of the great Pacific Northwest.

The application has been received from Harry T. Meyers for Chapter Associate.

A. Gordon Lumm of Tacoma has been elected a Chapter member. Mr. Lumm is a graduate in architecture of the University of Minnesota.

WASHINGTON STATE SOCIETY

Officers for the ensuing year were nominated at the November meeting of the Washington State Society of Architects. President John S. Hudson presided. The nominating committee comprised W. C. Jackson, chairman; Isaac Wright, James M. Taylor Jr., R. C. Stanley and Oscar F. Nelson.

James E. Blackwell, chairman of the public building committee, reported on progress on the program of obtaining retainers for private architects on public buildings to be erected in the State of Washington. The Society is cooperating with the American Institute of Architects in promoting the Washington Architects, Inc., an organization designed to obtain work for State architects on Federal projects.

SPOKANE SOCIETY OF ARCHITECTS

Spokane Society of Architects met October 22 at the Spokane Hotel, Prof. Stanley A. Smith and Prof. Harry Weller presented a report of the conference in Seattle regarding the teaching of architectural drawing in the high schools. A discussion followed in which some of the architects stood in favor of teaching free-hand drawing and architectural history but not architectural drawing.

Professor Frederickson of the Lewis and Clark and Professor Hughes of the Rogers high schools were present and explained that they tried to teach the subject as a finding course as advocated by the Smith Hughes system of vocational guidance.

Professor Smith stated that nearly every course in high school and college were instituted because of a demand of the parents or of the students. The Society offered to be of any assistance possible to the schools. The teachers present expressed their appreciation.

SEATTLE ARCHITECTURAL CLUB

The Seattle Architectural Club, recently organized, has opened an office at 3314 White Building, Seattle. The officers are: Harry K. Wolfe, president; Elso B. Di Luck, treasurer; and G. Adolph Engstrom, secretary. Designs for suggestive projects have been started under the direction of Carl F. Gould.

ENGINEERS HONORED

Believing that there are many small self-liquidating public works projects which might be financed to provide emergency relief employment, the Reconstruction Finance Corporation has invited 37 engineers throughout the country to act in an advisory capacity on applications for loans for such projects. In its letters of invitation the Corporation says: "The applications of the smaller projects will very likely come through the local offices while the larger ones will come directly to us. However, we want the benefit of the reactions, suggestions, and opinions of men who are well acquainted with such projects. In this way, we also hope to avoid the necessity of long trips for the small applicants coming to Washington simply for information for filing their applications."

Western engineers to whom invitations have been extended include Arthur S. Bent and H. T. Cory of Los Angeles; John D. Galloway and Walter LeRoy Huber of San Francisco; D. C. Henny of Portland, Ore.; W. D. Shannon and Joseph Jacobs of Seattle, Wash.; John B. Fisken of Spokane, Wash.; W. D. Beers of Salt Lake City, Utah, and Herbert S. Crocker of Denver, Colo.

UNIQUE HOME AT CHICAGO FAIR HAS MODERN FEATURES

[Perspective and Plan on Page 58]

TO typify the last century's advances in home construction, a house unique in many features is being constructed at the Chicago World's Fair grounds by the Masonite Corporation.

The four-room bungalow was designed by Frazier and Raftery, architects, of Chicago. Its modern appearance is obtained more from its unusual plainness than from any ornamentation or striking colors.

The exterior will be one-fourth inch Presdwood over a sheathing of wood fibre structural insulation. A portion of the walls will be painted white

MODERN DESIGN AND MODERN MATERIALS MAKE THIS HOUSE OUTSTANDING IN INTEREST

and the remainder will be varnished to retain the natural color of the Presdwood while tempered wood of a darker color, will be used for trimming.

The flat roof, a portion of which will be closed in to provide a sort of covered terrace, will consist of wood sheathing applied over structural insulation for strength with a layer of one-eighth inch Presdwood over the sheathing and a covering of water-proofed canvas over this. This construction will permit walking and the use of furniture on any portion of the roof, even in the hottest weather, without injury to the roof.

Interior walls will be of structural insulation covered with wallpaper, plaster, canvas, paint or decorated wood, the finish being different in each room. Bathroom and kitchen walls will be covered with Temprtile decorated in harmony with the room fixtures. Floors will be of Masonite cushioned flooring with the exception of the bathroom in which a ceramic tile will be used.

A unique feature of the house is that the heights of the ceilings of the rooms vary with their size. For example the large living room will have a 12-foot ceiling, one bed room a ten-foot ceiling, and the second bed room and hall, nine foot. Another unusual feature is a baseboard around all rooms which conceals an electric current and makes it possible to plug in a lamp or other electrical equipment at any point around the room. The glass in all windows and exterior doors will be of a double construction, known as Thermo-Pane, which has a very high heat-insulating value. The space between the glass is specially treated to prevent the collection of moisture so that even on the coldest days it is possible to have clear visibility. Windows will be of a jib-head design allowing the entire sash to raise up into a pocket above the opening.

The warm air heater, hot water heater and air conditioner, all being gas operated, require little space and will be installed under the stairway. The kitchen will be equipped with a gas refrigerator and gas range, while the sink will have the most modern dish-washing equipment. In the bathroom there will be the most modern medicine cabinet with illumination concealed back of the mirror in such manner as to give perfect lighting results.

ARCHITECT AN ELECTION WINNER

O. R. Bean of Lawrence, Holford, Allyn & Bean, architects of Portland, Oregon, was elected City Commissioner at the recent November election. Besides his association with one of Portland's leading architectural firms, Mr. Bean has served on the advisory board of the Portland Housing Code, has been vice-president of the Oregon state building code committee, was three times president of the Oregon State Chapter, A.I.A., and a former chairman of the city planning committee of the Portland City Club.

HOUSING NEED IS HERE

The future of the building industry was envisioned as "greater and more prosperous than ever before known" by Rolland J. Hamilton, president of the American Radiator Company, at the ninth semi-annual dinner, on November 1, of the Producers' Council, affiliated with the American Institute of Architects. The upward trend, Mr. Hamilton predicted, would start in 1933.

A national shortage of housing space will follow "a vast unscrambling" of the situation arising from the doubling-up of families, he asserted. The present demand for lower priced city housing he described as tremendous. The country, according to Mr. Hamilton, is amply able to finance its building needs.

He gave President Hoover full credit for establishing the Home Loan Bank System, which promises to "mark the beginning of a new day in American home ownership." Real estate mortgages, he declared, would continue to be sound investments. He warned the public and the industry not to be misled by "defeatists."

"In our opinion," said Mr. Hamilton, addressing representatives of the architectural societies, the construction industry, and other groups at the Architectural League, "the prospects for next year are definitely better than the status of 1932, especially as regards residential work, which in terms of square feet of floor space awarded normally, represents about 55 per cent of total building construction.

- "We believe there is an exceptionally large pent-up demand for this class of work destined to bring substantial activity over a considerable number of years; and that 1933 will see a start of such activity.

"Commercial building comes later in the cycle and will probably have to await its turn. The measure of the start predicted for next year will depend on the customary factors governing industrial activity—revival of confidence in general and investment confidence in particular.

"The trend of the building industry is that of a basic need in the richest country in the world wherein the public are demanding better homes, schools, churches and public buildings; a country which for over one hundred years has expanded its wealth and production at an average annual rate in excess of 4 per cent and can well afford the bettter structures it desires.

"Because it represents a capital investment and the needs of the moment may be deferred, it is necessary in considering this trend to think in building cycles rather than in terms of a given year. With this approach, our industry is clearly seen as resting on unimpaired foundations; and after suffering recessations probably more severe percentage-wise than any major industry, it has the vitality and the faith to envision a future greater and more prosperous than ever before known."

Replying to the "defeatists" who declare that there is no place for new building enterprise and question when there will be, Mr. Hamilton declared:

"The replacement of food and clothing must be immediate; whereas the replacement of shelter can be postponed. In the midst of a period more acute than ever before experienced, the weak-hearted and non-observant fail to appreciate that the stream of our business is dammed and not dried up; that the demand is piling up but not extinguished and that the longer we suffer our present situation the greater the force of pent-up requirements.

"The cycle of food replacement is daily; that of clothing is measured in months; whereas the cycle of building is equally inexorable but is measured in years.

"The building industry is just as sound today as it has ever been in our history. Never has the public demand for new and better buildings of all kinds been more pronounced than at this moment.

"The year 1925," he explained, "was the peak of residential construction and during that year in 257 cities (constituting probably less than 40 per cent of the total population of the country) there were erected accommodations for 491,000 families.

"By a steady process this shrank until in 1931 the like figure was 98,000 families, with an estimate for 1932 of 65,000 families. These 65,000 family units added only 2/10 of 1 per cent to the existing stock of housing accommodations, and the cost thereof was probably less than the annual fire loss alone in this class of buildings.

"In other words, there are in this country approximately 32,500,000 family units and with a normal replacement factor of 2½ per cent per annum, the average requirement without regard to growth of population, is between 800,000 and 900,000 family units per annum. During this period there was an increase in population of probably 11,000,000 and approximately 7,500,000 marriages.

"The doubting Thomases assert that regardless of these statistics the country is full of empty buildings and why talk of more. Leaving aside the fact that it is a good thing to talk about building for some time before actually beginning, the implication is false.

"The midsummer report of the National Association of Real Estate Boards indicated shortages

in single family houses in 10 per cent of the cities surveyed, and in spite of much doubling up of families, a normal balance of supply and demand in 76 per cent of the cities.

"Six per cent of the reporting cities had a shortage of apartment buildings and 66 per cent reported a balanced supply. This means that immediately economic betterment ensues there will be a vast unscrambling of the prevailing 'doubled up' situation, and a shortage of housing space for these families. There is little possibility of overemphasis with respect to the implications of this statement."

Of lower priced city housing, Mr. Hamilton said, no one who will take the pains really to investigate can doubt that despite our economic afflictions, there is a present demand for such accommodations of really tremendous proportions—and at prices which yield a fair return.

Mr. Hamilton denied that the country is not able financially to bear the burden implied by statistics of building needs. He pointed out that in 1925, the peak year of residential building, the total per capita expenditure for new housing accommodations was $24, and the total per capita expenditure for all classes of buildings (except public works and utilities) was $43—this with an estimated national income of $741 per capita.

"The truth is," he asserted, "that even in this peak year of expenditures, the American people were amply able to afford the small percentage of their income dedicated to new construction; and are able to do so again.

"Does any one question that our people can afford as much for the building of their homes as they can for their automobiles? Yet in 1931 the approximate expenditure for new automobiles was $1,407,000,000 and for new residential construction was $811,390,000."

Over a long period of time, according to Mr. Hamilton, real estate mortgages have proved an excellent investment, as shown by the large holdings thereof by the most conservative investment institutions. The losses witnessed in these abnormal times, he said, are no criterion of the past or future.

October 15, 1932, the day the new system of Federal Home Loan Banks opened for business, was called by Mr. Hamilton one of the most important dates in the history of the building industry.

"To the President of the United States," he continued, "must go full credit for proposing this measure and for holding before the people the pressing public need for its enactment from the day the Congress met up to the last day of the session.

"Once advanced, Democrats and Republicans alike joined in its support. The passage of that bill and the opening of these banks should mark the beginning of a new day in American home ownership.

"This major addition to the nation's banking system is more than a device to meet the present emergency. It is a permanent central core for the financing of home ownership. As it gets under way it will separate long-term borrowing for a home from its present entanglement with short-term borrowing for commerce, industry and speculation.

"The Home Loan Bank System greatly widens the market for materials and labor for the entire building industry since these banks make available immediately $134,000,000 for new mortgages on homes and for refinancing present mortgages, and can draw potential capital for these purposes as rapidly as needed up to $1,600,000,000.

"This means that after the Home Loan Bank System gets into operation, the building industry can expect this banking system to provide funds and credit to create approximately five billion dollars worth of home building and repair work during the next three years.

"The far-reaching effect of this is best appreciated when it is realized that in the peak year of 1925 we spent only one-fourth of this amount for single family houses.

"This is the best assurance of the future of the building industry—next to agriculture the largest industry in the country and which in normal times with its total volume of seven billion dollars, pays in normal years, like 1926, the largest American wage bill amounting to more than three billion dollars."

OUR MODERN ARCHITECTURE

Modern materials and methods such as American industry is developing are producing our modern architecture, Raymond M. Hood of the New York Chapter of the American Institute of Architects, said.

"The architecture of the past," Mr. Hood continued, "is not being discarded because it is old-fashioned in appearance or to 'pep' up the profesion with a new line of goods.

"The new architecture has burst upon us, because we cannot avoid it, because modern industry has developed new materials, processes and methods that make a building more convenient, more comfortable, better suited to its purposes.

"And so much better are they than the materials and methods of the past that they cannot be denied. They can not be incorporated in the old forms, so of necessity we have had to develop for them new forms into which they can fit—and a new architecture is born."

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CEMENT ASSOCIATION ANNIVERSARY

The Portland Cement Association at its 30th annual meeting in Chicago last month elected Charles F. Conn chairman of the board of directors. Mr. Conn is president of the Giant Portland Cement Company of Philadelphia.

H. L. Block, president of the Missouri Portland Cement Company of St. Louis, was elected treasurer of the Association and is also a director.

The thirtieth anniversary of the Association was commemorated at a special dinner at which Robert W. Lesley, a founder of the Association and its first president, was a guest of honor.

Because of its organization in 1902, the Portland Cement Association ranks as one of the oldest trade associations in the country.

The Association was formed to consider what is now a minor incident in the manufacture of cement, the sacking problem. At the time of the Association's birth, the use of cement was largely confined to rough structures, such as dams and foundations. But through cooperation the cement manufacturers standardized principles of use so now cement is utilized in nearly all structures, either as a structural or decorative material and oftentimes both.

$566,000 FOR ELEVATORS

Thirty-seven elevators will provide for the transportation needs of the new United States Supreme Court building in Washington, the marble cornerstone of which was laid recently.

The contract for these installations, costing approximately $566,000, let to the Otis Elevator Company, calls for: 31 gearless traction signal control passenger eelvators, travelling at 600 feet speed, 26 of them lifting 2,500 pounds and the rest 3,000, total travel 100 feet; two gearless traction collective control passenger elevators, with self-levelling and capacities of 1,200 pounds at 350 feet speed, rise 75 feet; and four geared traction, self-levelling, car-switch control freight elevators, lifting 5,000 pounds at 250 feet speed with a rise of 100 feet.

The signal control elevators are equipped with Otis electric door operating devices for car and hatchway doors. With the collective control elevators are furnished Otis cars with doors and with elevator entrances; also door operating devices.

ELEVATORS REDUCE EXPENSES

Modernization of the elevator equipment in the Keenan Building, Liberty Avenue and 7th Street, Pittsburgh, has reduced operating costs by $250 a month and increased the building tenancy from 80 to 95 per cent, according to the present management.

"This building was erected in 1918, and in 1927 was taken over by the present management," states J. C. Knapp, vice president of the Otis Elevator Company. "According to the information reaching us, at that time, they were faced with serious competition in view of a large building being erected directly across the street. Consequently, they spent about $50,000 for changing the elevator machines to Unit Multi-Voltage Control, increasing the speed to 650 feet per minute from 550 feet, installing of new first floor entrances, new cabs, door closers throughout and new signal system.

"Upon taking possession of the building at that time, it was found that it was rented to about 80 per cent of capacity. Since the elevators were modernized, the building has never been below 95 per cent occupied. This is in spite of the fact that the new buildings erected in Pittsburgh since 1927 have more than doubled the rentable office floor space in that city.

"The management is also obtaining the same rate per square foot as is being paid in newer buildings. They estimate a saving in operating cost of about $250 per month.

KELVINATOR BOOKLET

The Kelvinator Corporation of Detroit, Michigan, has recently had conducted for them by Trade-Ways, Inc. of New York, a national survey on the question of cool water and profits—from an economic end.

The result published in booklet form is written strictly from the viewpoint of refrigeration users in the building field.

The report is a real contribution to the knowledge of present day conditions. Copies of the booklet, which is graphically illustrated, may be obtained on request from the Kelvinator Corporation, Detroit, Mich.

MONEL METAL SINKS

The International Nickel Company of New York, has published a new catalog featuring Inco standardized monel metal sinks and tops in streamline and straitline models. This catalog ts A. I. A. file No. 29-H-6. It is well illustrated and has tables of dimensions and weights. The Pacific Metals Company, Ltd., of San Francisco, are the licensees in the California territory.

ARCHITECTURAL EXAMINATION

Examinations for certificates of architecture will be held on January 3rd, 4th, 5th and 6th at the Division of Architecture, University of California, Berkeley. Details of the examination may be secured at the office of the State Board of Architectural Examiners, 450 McAllister Street, San Francisco.

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MAY CUT CONTRACTOR'S FEES

Glen V. Slater, Assistant Registrar of Contractors, in a public statement to the press, says there is no foundation to the report that an increase in the contractors' registration fee was to be sought by the Registrar of Contractors in the 1933 California State Legislature.

On the contrary, he says, it is highly probable that a reduction in the registration fee will be advocated by the Registrar.

It is quite possible that the Legislature will be asked to set a minimum fee of $5 and a maximum fee of $10, with the power to set the fee, within these limitations and providing circumstances warrant such action, being vested in the Registrar, and of course subject to approval of the Governor and the Director of Finance. The following paragraphs are taken from Mr. Slater's recent resume of the accomplishments of the State Contractors' Act during the past three years:

"A careful review of these accomplishments conclusively shows that the law has more than justified itself and proved of real value to the public and the industry. At the same time the Registrar has been able to render a genuine service to the public and the industry during these times of economic stress in accordance with the mandate of Governor James Rolph Jr.

"Unquestionably, the chief accomplishment has been to rid the State of hundreds of unscrupulous, unethical and fly-by-night contractors who, lacking in integrity, ability and financial stability, continue to bilk the gullible public.

"Inasmuch as the State was enjoying one of the greatest building booms in its history at the time this measure became effective in 1929, the nefarious operations of this type of contractor were fast assuming the proportions of a giant state wide racket.

"The measure was sponsored in the 1929 legislature by the California State Builders' Exchange, the Associated General Contractors, Ltd., and other groups in the industry, and its enforcement has resulted in higher standards and ethics within the industry as well as restoring the confidence of the general public in the ability, integrity, and financial stability of the contractors.

"Likewise, the operation of this law has undoubtedly saved the building public millions of dollars. It is obvious that enforcement of this act prevented many contractors from performing unethical and unscrupulous acts which would have worked financial losses upon the public.

"The benefits derived by the public and the building and construction industry from the operation of this act cannot be shown by the amount

of money involved in the complaints brought before the Registrar, which, thus far totals $614,000.

"These complaints, in the majority of cases, involve only a small unit of some major building or construction project with an aggregate value running into millions of dollars. This is due to the fact that the unethical contractor may, for example, be awarded a half million dollar job, and before completion of the job he would be hailed before the Registrar in a dispute involving possibly only a hundred dollars.

"Were it not for the operation of the law in such cases, it is obvious that the contractor would be at liberty to carry the project to completion in an improper and faulty manner, entailing considerable financial loss to his patron or subcontractors, which might run into a large percentage of the total value of the entire project.

"We have, in our files, many records showing concrete examples of the foregoing, and one typical case is No. 55.

"In this case, the investigation revealed the fact that twelve houses were being financed on fictitious loans and twelve owners were paying interest on money that was not available in the first place, as no loans had actually been made. This firm was forced into bankruptcy and the officers sent to prison for embezzlement of funds. In this same case, more than $200,000.00 was involved, although the actual complaint filed with the Registrar reflected only a small amount and involved only one of the twelve houses.

"The operation of this act has served a twofold purpose, in that it has protected the public in cases such as I have just cited, and at the same time has protected the legitimate contractor and business man.

"Enforcement of the Act has been instrumental in greatly curtailing the continued practices of many so-called fly-by-night operators in going from town to town and underbidding reputable contractors with the intention of skinning the job by substituting cheap and inferior materials, diverting funds received for payment of labor or materials, and vanishing after receiving one or more payments, leaving the owner with a partially completed project saddled with liens for materials for which he had presumably paid.

"Economic conditions during the past three years have resulted in a heavy turnover in the number of registered contractors operating in California. Since enactment of the Contractors' Registration Act on August 14, 1929, a total of 39,235 individuals, copartnerships, corporations or associations have been engaged in the contracting business at one time or another.

"Of this number, 19,248 or 49.1% are now

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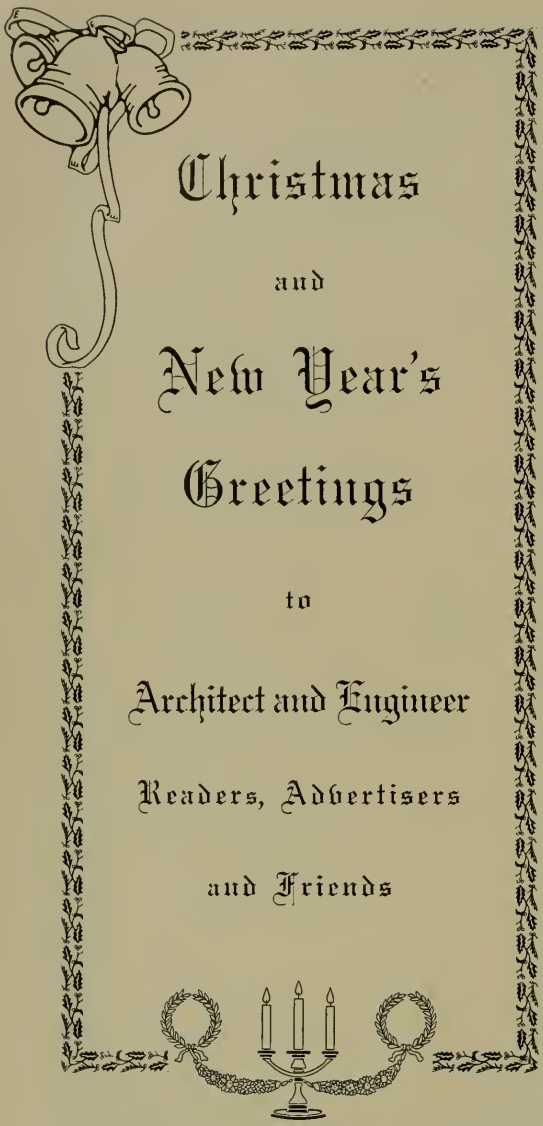

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operating and in good standing. In contrast, 19,987 contractors, or 50.9%, have been licensed and engaged in the building or construction business at some time or other during the past three years, but for various reasons have gone out of business. This situation is due to economic conditions as well as the raising of qualifications and standards within the industry.

"At the same time it is noteworthy that an average of 18,500 contractors have remained operating and in good standing continuously during the licensing period."

SOME KIND OF A RECORD

Those who are making money moving dirt these days have to move it fast. The Frederickson & Watson Construction Company of Oakland, Calif., believe that, considering the size and weight of the machine used, they have established an output record for a dragline in sandy dirt.

The contract was the state highway job, U. S. Route 101, south of Santa Maria. In the early stages of the work the soft-going prevented the use of trucks so crawler wagons were installed. The dragline had a 40-ft. boom and a 2-yd. bucket.

The California division of highways states as follows:

The hauls were from 300 to 1500 ft. 141,500 cu. yds. (bank measure) were moved in 73¼ shifts between Jan. 22, 1932, and Mar. 8, 1932.

"The maximum daily output for an 8-hour shift was 3200 cu. yds. The maximum hourly output was 480 cu. yds. The average output for the job was 1931 cu. yds. per 8 hours. All quantities are bank measure and not truck count."

Here is something for dirt movers to shoot at.—*Roads and Streets.*

FEDERAL BUILDINGS

The following Federal buildings for the Pacific Northwest have been definitely authorized:

Washington: Spokane, $790,000; Bremerton, $135,000; Centralia, $110,000; Montesano, $85,000; Shelton, $80,000. *Oregon*: Hillsboro, $80,000; Hood River, $90,000. *Idaho*: Blackfoot, $125,000. Eastport, $59,000, each minus the ten per cent required under the Economy Bill. *Montana*: Dillon,, $100,000; Glendive, $95,000.

"COLD MAGIC"

The York Ice Machinery Corporation of York, Pennsylvania, has recently issued an exceptionally fine brochure on refrigeration machinery entitled, "Cold Magic". It tells the story of refrigeration during the last fifty years, it's relation to every day life and it's value to commerce and industry. This book is profusely illustrated with photographs showing many of the details of ice machinery manufacture.

CONTRACTOR LICENSING

Following on the heels of the adoption of a contractors' licensing plan in California and a movement for a law in New York during the past winter, agitation is now being carried on for such a plan in Ohio. As in the other cases, the project would include heating contractors in its scope. The comment we receive is to the effect that the proposal is not likely to make much headway in Ohio this year.

This whole movement looking toward some kind of licensing plan is of vital interest to all present and prospective contractors. Its adherents look on the idea as the salvation of contracting, while those opposed point to alleged failures of other like plans. Just now these proposals are all in the discussion stage except in California.

One general principle may well guide the thinking of any contractor who must make up his mind whether or not to support such moves. It is, that the success of licensing laws has depended almost altogether on the character of the agency set up to enforce them. No matter how well the law itself may be drawn, or how promising the plan, unless the actual administration is free of politics —even group or industry politics—it will not succeed for long. Before supporting such proposals, make sure that their administration will be in competent hands. Where this is true we believe that licensing plans will work to advantage.—*Heating and Ventilating Magazine.*

MODERN DRINKING FOUNTAIN

The new Manhattan sanitary drinking fountain, manufactured by the Haws Sanitary Drinking Faucet Company of Berkeley, is favored by architects who approve of the modern angular motif. The vertical lines of the fixture reflect present day tendencies in architecture.

The Manhattan was designed primarily to accommodate the enduring qualities of Haws fountains to the needs of modern architecture. The pleasing proportions of the vitreous china bowl are based upon the recognized rhythms of modern art. The colors from which to choose cover the entire range of color harmony.

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THE 'JORDANS' EMPLOY AN ARCHITECT

The "Jordans" have decided to employ an architect, and only two or three million westerners already know about their momentous decision.

You see the "Jordans," consisting of Don and Mary Jordan, weekly broadcast their activities over the entire western National Broadcasting Company's network in behalf of the building industry in general and The Paraffine Companies, Inc., products, in particular.

During the past several months the "Jordans" have been improving their present residence, which at the outset consisted of a completely run-down house, which was being barely held together with a few half pulled out nails.

After the "Jordans" decided to thoroughly modernize this house to make it livable, they enlisted the aid of the local Pabco man and converted it at an infinitesimal cost into such a livable home that some friend of theirs fell in love with it and insisted upon purchasng it, paying a price that enables the "Jordans" to now build the home of their dreams.

Mr. and Mrs. Jordan have decided that it would be money well invested to employ an architect even in advance of the purchase of the site of their new home. The architect commends them for their foresight, telling them how important it is to select a site possessing the proper area and elevation that will enable them to construct their dream home just as they have conceived it and as his plans have developed it.

Hence the many services of an architect will be visualized in action to an immense western audience in a manner that will emphasize to home owners the importance of this profession. You will find it quite interesting to tune into this program some time. It is broadcast every Thursday morning at 10:40 a. m., Pacific Standard Time, over stations KGO San Francisco, KFI Los Angeles, KFSD San Diego, KGW Portland, KOMO Seattle, KHQ Spokane.

The broadcast is said to already possess one of the largest audiences of any western daytime program, being greatly enhanced by the ability of the "Jordans" to frequently burst into appropriate songs that express their momentary moods.

GET YOUR HOUSE IN ORDER

The beginning of a new era in building activity is seen by William O. Ludlow, chairman of the Committee on Industrial Relations of the American Institute of Architects. It is high time, he says, for property owners to make repairs and keep their buildings from falling into such a ruinous state of depreciation that repairs will no longer be possible.

"We have now arrived at just about the bottom

of possible depreciation and disrepair," declares Mr. Ludlow. "There is hardly a house or business building that does not need either a new roof, protective painting, plaster patching, plumbing and heating repairs, or something to keep it from a condition where repairs will no longer be practicable. It is surely the first duty of every householder, after providing food and clothing for his family, to put his property in order.

"Nor need this be done from purely selfish interest. There are thousands of building mechanics now without jobs who must be helped through the coming winter either by public gifts or public support. If such men can be provided with even two or three days of work a week they can get along, and if every property owner does his duty as required by his own property and starts this fall to put it into proper shape there will be no want, at least in the great army of men in the building industry.

"Right now labor and business materials are unusually cheap. Repairs and remodeling that used to cost $1,000 can be done for about $650. This is a good time to build, as well as repair, for every dollar spent in building gives the safest investment that can be made. Because of present low prices it is certain that every dollar so invested will be worth a dollar and a half in a year or two.

"The nation's recovery to financial health depends on the attitude of every man toward buying. No one gets a new job until someone does some new buying. According to all reports we have made a good start. The building trades, always one of the last industries to come back, are showing signs of life. This is the time for property owners to buy repairs."

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WAYS TO PROSPERITY

(From "Plan-It," Bulletin of the Portland, Ore., City Planning Commission.)

It is becoming increasingly evident that prosperity exists in this country only when construction work is in progress on a large scale. At present private construction for commercial and industrial purposes is at a low ebb, largely because there is little need of new plants. The country generally is pretty well over-built in most lines. If work, then, is to start on a sufficient scale to bring on prosperity, it seems evident that public agencies must be called upon to start it. Two obstacles stand in the way of this necessary increase in public work.

The first obstacle is our objection to "unproductive" expenditure.

It is our habit to distinguish between those public services which pay their way and those who are a drain on the treasury. A municipal water system may show a profit, while a park system shows only expenses. Although the distinction is merely a matter of bookkeeping, since the citizens pay for both, it creates the illusion that the free services are useless luxuries. This is a holdover from pioneer days, when a rapid increase of industrial equipment was the chief need of the country. In those days money spent for pleasure was a loss to the growth of the nation.

At present, however, our industry is over-developed, and it is not productive capacity we lack, but markets. It is no longer proper then, to speak of a park system as 'unproductive.' The effect on land values which follows the establishment of parks, churches, libraries, etc., is an indication that the word 'unproductive' is a misnomer. Such institutions produce cultural values, and, speaking purely from the economic point of view, the cultural values of the community are the foundation of business. The absolute necessities of food and shelter are a very small fraction of American industry. Business de-

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pends on a high standard of living; beauty is of fundamental economic importance.

Not only is it true that a park is productive if it produces health and pleasure for the citizens and increased land values for taxpayers. It needs also to be realized that a factory is non-productive if it produces only bankruptcy for its owner and unemployment for its workers, throwing them upon the taxpayers for support. It is therefore not only justifiable to spend large sums on parks and museums; it is especially desirable to draw money away from investment in new enterprises that will produce unemployment. As nearly every industry in the country is now over-equipped, it is obvious that almost any new factory or mine serves no other purpose than to add to overhead and bring on depression.

Construction we must have, but more competition we must avoid. It follows that "what the country needs is the construction of plants to produce cultural advance, but not to produce goods for sale. That sort of construction is public and semi-public; the more of it, the more prosperous we shall be. The other kind of construction is the overbuilding of industrial and commercial plant; the less we have of that, the longer our prosperity will last."

A time of stagnation in building can not last forever. Some of these fine days we are going to 'snap out of it' for no reason readily apparent, just as we fell into it for reasons that we still disagree over. As Walter Lipman well says, "In every depression there comes a time when the way to resume is to resume." When we do decide to start our mills and factories, to engage again in that most desirable activity of building things, perhaps we shall decide to use some new and original plans for construction.

Since 1900 the developments in machinery and materials have been so rapid that more progress in

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ability to build and in reasons for building has been made in three decades, than in the several centuries prior to that date. Yet the actual shape, the plan of buildings, has changed but little, if at all. The building or the street fitting the horse or even the street car, is by no means the best that could be devised for the use of the automobile.

Just now there is a universal attempt to cut down expenditures whether it be for constructive purposes or for useless ornamentation or advertisement. All expenditures are subject to the same demand: cut down, cut off. But some time a better balanced attitude will return. Before long it will be generally recognized that America's prosperity is the wise use of our natural resources, the changing of timber into lumber and houses, the changing of coal and water into power, the changing of grass into beef and hides, the changing of ore into steel and cement, the changing of hidden pools of oil into billions of miles of travel.

Real waste is the stoppoge of these currents of work and activity. When six or seven million men are idle for a year, the resulting economic wastes and losses are appalling. When a way is finally found to set these builders to work it is logical to expect that some radical departures from past plans will be made. For the past 150 years we have been everlastingly busy building roads, railroads, canals, factories, farms and mines, to feed, clothe, shelter and move a constantly growing population. Now that we have reached a somewhat stable condition of population we must go on with more permanent, more satisfying, more beautiful buildings."

ELECTRIC HEATING

Prof. Leonard Hill, the English scientist who for some years past has been carrying out important experiments in domestic heating and ventilating, has announced

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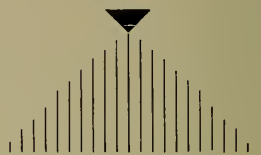

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that he recently made the curious discovery that the prickly sort of heat felt on facing an electric heater is "notably relieved on bringing close to the face an incandescent lamp screened by a sheet of glass. The one set of rays acting on the skin antagonizes the other set." The effect, however, does not result if a sheet of gelatine or cellophane is substituted for the glass screen. The lamp and the screen in front of it are, of course, so placed as not to shade the heater. Professor Hill also finds that the rays from an electric heater or dark source of heat cause congestion of the nose and feeling of stuffiness as a result of acting on the skin reflexly. This is not the case with everybody, but those who have a deflected septum and some nasal obstruction are particularly susceptible to this congestion. Those with widely-opened noses may be made sensitive by means of a screw nose-clip adjusted so as partially to obstruct their noses. The rays from an incandescent lamp also counteract these "nose-closing" rays, and in this case the counteracting rays may act on a part of the skin other than that irradiated by the electric fire. A square inch of skin suffices to obtain the reflex on the nose, and the sources of the rays may be put many feet away. The sensitivity of certain people to these rays is very great.

"Cooling the face prevents the nose-closing effect," Professor Hill continues, "hence the importance of ventilating rooms with cool air. The skin when wet with perspiration is protected from the 'nose-closing' rays, and it is noteworthy that a screen of invisible vapor rising from a bowl of water set in front of an electric fire or dark source of heat has the same protective influence. As the bowl, to be effective, must be placed between the source of heat and the skin, its influence is not due to a general humidification of the air of the room. It is remarkable that

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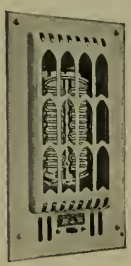

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a dense cloud of steam, or a layer of water, does not protect the skin from the 'nose-closing' rays. The Ilford screen used for the wonderful new infra-red photographs transmits infra-red rays which are not scattered by the mist in the atmosphere. This screen permits the 'nose-closing' rays to pass and cuts out the 'nose-opening' ones; so also do screens of cellophane and horn. Glass, on the other hand, absorbs most of the 'nose-closing' rays and lets the 'nose-opening' ones through. Spectroscopic study of the screens shows that the 'nose-opening' rays belong to a group about 20,000 to 30,000 Augustrom units in the region of the shorter infra-red rays.

"Sources of heat like the open fire or modern gas heater are pleasant because they give off these beneficent rays in sufficient quantity. Electric heaters can be made as pleasant by putting more current through the wire and so making them bright instead of dull red. The use of the bowl of water in front of stoves can be shown, and the need for ventilation of all rooms with cool air made evident by very simple experiments."—*A. C. Blackall,* London.

STUDY BUILDING NEEDS NOW

Studies enabling states and cities to formulate projects for low rent housing and slum clearance with the aid of loans from the Reconstruction Finance Corporation should be started at once throughout the country, Abram Garfield, president of the Cleveland Chapter of the American Institute of Architects, declares in a statement issued by the Institute.

These studies should not be delayed until State Legislatures establish the regulatory machinery required by the self-liquidating provisions of the Emergency Relief and Construction Act, urges Mr. Garfield, one of the leaders in the movement to improve housing conditions among the masses as a governmentally recognized "public purpose."

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"No one thing has given a greater impetus to the idea of replacing bad housing with better housing than this act of the government," he says. "It has called attention forcibly to conditions which were almost universal but were known to very few. It has set before us the acknowledgment by Congress that slum clearance is a public purpose and it holds out an opportunity to borrow money at a time when it cannot be borrowed from any other source.

"Following this act of Congress, states have examined their constitutions and laws and have been surprised to find that they are not prepared to take advantage of this principle that has been acknowledged by the Federal Government.

"New York State alone had prepared itself and has a housing act giving certain privileges and exercising the control that the State should require when granting privileges. Ohio has followed with an act enabling the State to exercise control and granting one important privilege, that of condemnation. Other states may follow this lead when their legislatures meet and the privileges granted will vary but the control must be closely similar to that exercised in New York and Ohio.

"The fact of the enactment of such a housing law is a long step forward but will not of itself set things going. The Board of the R. F. C. will not accept the interest and intention of a building corporation as sufficient evidence of their probable success.

"An architect's plan even if incorporating all of the requirements of recognized good practice, will not be enough. Any proposal brought to the Board of the R. F. C. should include many facts and estimates which are available but are often overlooked.

"There should be a statement of the population of the district and its changes; its vacancies, the number and size of building permits during the past ten or twenty

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years. The number and condition of mortgages and foreclosures; the character and foot frontage of stores and their history during the past two or three decades. This involves a complete inventory of the real estate and a careful analysis and interpretation of the facts.

"Knowledge of these facts and many others should be a part of any report to a private investor and it has always been important but the architect, as a rule, has taken instructions from his client and has assumed that the client's judgment was sufficient evidence of probable success. The reclamation of old residence districts is a new problem and a failure at the beginning will act as a deterrent more discouraging than past indifference.

"Architects and others who hope to take advantage of the offer of the R. F. C. when their states have passed the necessary legislation should study their cities in advance as they have never before examined them. There is very little past experience that may be accepted.

"Plans for one city are rarely appropriate in all respects for another city and unless we know that our proposed plan fits properly into the probable development of the town in question we are allowing those who have money to invest to take unnecessary chances.

"The fact of R. F. C. loans is very important, but it does not solve the whole problem. This along with state laws gives a help without which no start could be made, but it does not free those who are investing money from all danger of money loss.

"Architects and those who are asking for R. F. C. assistance must be prepared to answer a searching examination and this cannot be achieved without a thorough knowledge of the facts.

"This is an admonition to start the study at once. Do not wait for legislatures to meet."

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THE ARCHITECT AND ENGINEER

JANUARY 1933

THE BUILDING

AS ALL buildings are seen, society has a right to demand that none be ugly; the life of the community requires that none be unsafe or dangerous to health; social economy requires that they be not wasteful of space or ill-suited to the purpose for which they are created. Every building is to some extent a public matter—even a private house. No building should be erected that is not an attractive addition to the landscape. A well-designed building is a more valuable property—a better investment. A well-constructed building is a more economical investment. No owner however gifted in other ways, no contractor however skilled, can design and build the simplest house equal in beauty, utility and cost to one completed under the guidance of a trained architect.

From A. I. A. Document No. 186

THE FOLLOWING FIRMS SUPPLYING MATERIALS, LABOR AND SERVICES TO THE ARCHITECTURAL PROFESSION AND SPECIFICALLY HAVING CONTRIBUTED THEIR BEST EFFORTS TO THE SUCCESS OF THE VARIOUS BUILDINGS APPEARING IN THIS ISSUE, DESIGNED AND SUPERVISED UNDER MESSRS. KENT & HASS, ARCHITECTS OF SAN FRANCISCO, HEARTILY ENDORSE THE ABOVE POLICY AND URGE ALL THOSE CONTEMPLATING THE ERECTION OF ANY BUILDING TO

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OPEN letters by the President and Treasurer of the American Institute of Architects, addressed to the members, would seem to indicate that the Institute is having a struggle to weather the depression and Treasurer Bergstrom does not mince matters when he says that "the Institute is down to fundamentals. What it will do and become during this new year will depend entirely on the support received in payment of dues."

The Institute now has 3,000 active members, but according to Mr. Bergstrom, only one half of these may be able to continue their annual dues without some sacrifice. And the dues from these one half will not be sufficient to permit the Institute to carry on those things which are considered essential to the welfare of the profession. Mr. Bergstrom states that if the Institute must depend on such dues only "then it will be obliged to give up its publicity work; to give up its program to secure the designing of public buildings for the practicing architects; to give up its structural service work; to curtail further the visits of the directors to their Chapters; and, in brief —to become a skeleton organization."

It would seem that financial assistance ought to be forthcoming from the wealthier members who are well able to give and give liberally. The State Association of California Architects is understood to be in splendid financial condition and this organization might be induced to lend its assistance.

⁂ ⁂ ⁂

IT looks as if the five working day week with six hours to a day is not so far away after all. Legislatures are taking it up and various organizations are getting behind the movement with a determination to put the thing over. The San Francisco Supervisors have indorsed the plan but they have rather muddled things by disregarding the Impartial Wage Board's adopted scale and restoring "boom time" wages to workers on all municipal building projects.

Six hours for five days a week, or 30 hours of work per man, as against the 44 hour week heretofore in force, will permit employment of 50 per cent more men on a job or make the job last that much longer for each man.

⁂ ⁂ ⁂

AT the present time there are certain unavoidable evils in the building industry that will have to be eliminated if the new scheme is to be carried out effectively. Many mechanics who are now only partially employed are taking labor contracts at starvation prices, and they work on Saturdays and Sundays in order to add to their meager earnings. This practice, while it may obviously help the individual, is fundamentally so unsound that by all means every effort should be made towards making it impossible. Architects and material dealers should join in a concerted drive to eliminate this week-end construction work.

⁂ ⁂ ⁂

CHESTER ROWELL SAYINGS

WHEN the individual exercises his rights in erecting a tall building facing on a narrow street which is unable to take care of the traffic from his building he imposes upon the community the obligation to build a three-story street.

———

Architects should welcome certain results of standardization. They should welcome building laws because sound construction is not underbid by unsound construction because the government prohibits the unsound.

———

The development of the "set-back" architecture of tall buildings is an instance of regulation giving an opportunity for great architects to exercise their individualism.

———

No one architect can produce a building of any magnitude, doing all of the planning and construction work himself. A collective organization of great magnitude is required. In some instances even the client is a great collective unit such as a public utility. And there is government regulation to be considered. Nobody cares whether the architect likes these conditions or not. He must adjust himself to them.

⁂ ⁂ ⁂

REMODELING and modernizing of Independence Hall, Philadelphia, in 1739, is believed to be one of the first most important modernizing jobs in this country, according to records of the Commerce Department's Advisory Committee on home modernizing.

The Hall, known prior to 1776 as the "State House", was completed in 1734, forty-two years before the signing of the Declaration of Independence. Within five years, according to historical data, it was discovered that it lacked the convenience necessary for its purpose, and it was therefore modernized by the addition of an east and west wing.

That the property owners of today are also "house conscious" is evident from the substantial number of homes which have been repaired or remodelled as a result of organized home improvement and clean-up campaigns conducted in various cities by cooperating civic, professional and business organizations. These improvement campaigns include two major aims: To encourage community beautification and maintenance of property values, and to increase local employment and business.

⁂ ⁂ ⁂

HERE is a more hopeful view of business based upon a recent survey of conditions in the East:

"The low point of business activity and security prices was reached in midsummer, 1932, according to Franklin Wulff, president of Wulff, Hansen & Co., of San Francisco.

"As the basis of his opinion Mr. Wulff cites the improved conditions in Germany and the Danubian states, the rapidly growing supply of monetary gold, the universal easy money policy on the part of all central banks, the vast improvement in our own banking situation, and the potential market offered by 120,000,000 Americans who for three years have deprived themselves of necessities and luxuries.

"Mr. Wulff does not believe that recovery will be as slow as is popularly imagined, his optimism being of considerable significance in view of the fact that he is one of the few observers who until recently has been consistently bearish since early in 1929."

⁂ ⁂ ⁂

UNIFICATION

The plan for unification of the profession does not appear to have met with universal approval. The reports and letters that have come to the editors indicate that the debate in some quarters is getting acrimonious. But those in favor of unification have said little. Is this because they feel the proposal needs no defense, or are they unaware of the opposition?"—*American Architect.*

Any question involving human relationships is bound to produce a difference of opinion.—*Bulletin State Association of California Architects.*

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1933

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Kent and Hass, Architects

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Next Month

A treat is in store for ARCHITECT AND ENGINEER readers commencing with the February issue and continuing probably through the remainder of the year. The autographed drawings, embracing a life time of professional activity, of the late John Galen Howard, internationally known architect, will be published in portfolio form. This notable collection of architectural works will be prized by hundreds of former students under Mr. Howard, as well as by a host of enthusiastic admirers.

Another unusually interesting feature for the February issue will be an article: "What is the Modern Sculptor Attempting to do?" by Warren Cheney, instructor in sculpture at Mills College. Illustrations of Mr. Cheney's work will be shown.

The story of a Los Angeles landscape architect describes some successful work on Hollywood's mountain ridge. The illustrations are charming.

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KENT AND HASS, ARCHITECTS

THE
ARCHITECT
AND ENGINEER

JANUARY 1933
VOLUME 112
NUMBER ONE

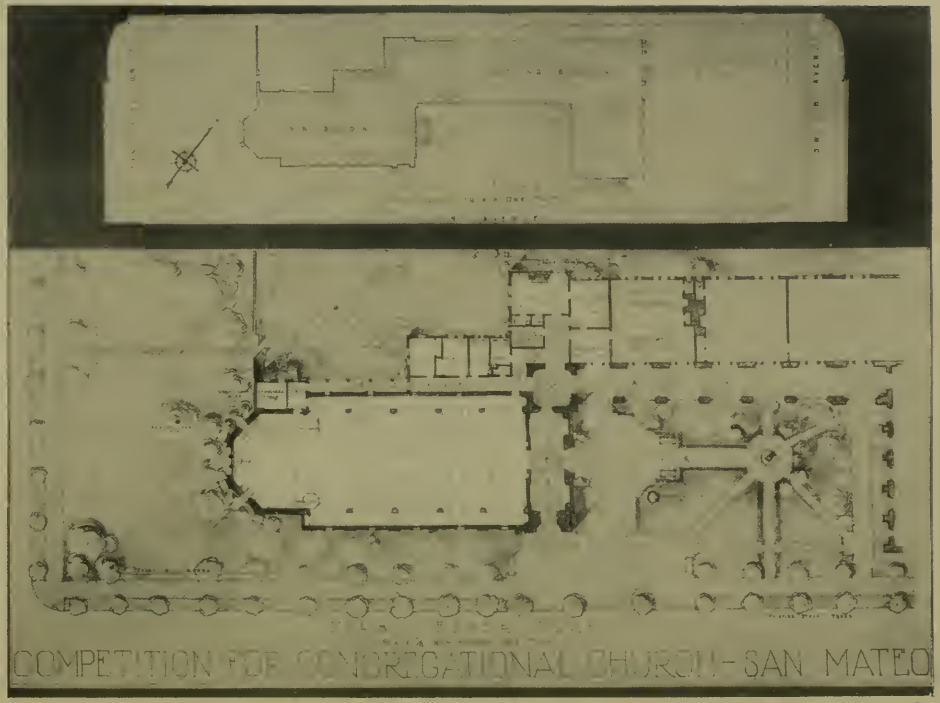
RECENT WORK OF THOMAS J. KENT AND ANDREW T. HASS, ARCHITECTS

by
E. N. KIERULFF

THE illustrations comprising the portfolio of some of the recent work of Messrs. Kent and Hass, and for which this brief foreword serves as an introduction, are on the surface a photographic record illustrative of an architectural practice. Beneath this surface, however, there is an underlying structure, a thoughtful and efficient service to each individual client; a real endeavor to create that which expresses the individual taste of the client within the bounds of sound architecture. To educate the average home builder to understand the first principles of good taste architecturally is one of the first steps of the reputable architect is required to take in gaining the ultimate respect and good will of his client and fellow practitioners.

Mr. Kent once related to the writer, by way of example, the story of a client's three homes. The first, a modest small house of no architectural merit and having no particular charm, though the owner was aware of these things, he could not better them for some years. Later came the move to a new house built to express this man's yearning for something finer, something more permanent, with improvements that made for a more livable home. Through the good taste and discretion of his architect, the client did not, metaphorically speaking, leap from cottage to mansion for which leap he was by no means ready, but progressed in an orderly manner. Still later, when cultur-

HOUSE OF MR. AND MRS. WILL T. JONES
OAKLAND, CALIFORNIA
Kent and Hass, Architects



FIRST FLOOR AND PLOT PLAN, WINNING DESIGN IN COMPETITION FOR CONGREGATIONAL CHURCH, SAN MATEO
KENT AND HASS, ARCHITECTS

CHANCEL, CONGREGATIONAL CHURCH,
SAN MATEO, CALIFORNIA
KENT AND HASS, ARCHITECTS

DIRECTORS' ROOM, OFFICE OF J. BARTH & COMPANY, SAN FRANCISCO, CALIFORNIA

KENT AND HASS, ARCHITECTS

PERSPECTIVE STUDY, EL CAPITAN HOTEL, MERCED, CALIFORNIA
Kent and Hass, Architects

ally the owner had grown away from this second house, he again visited his architect, this time ready with the knowledge and judgment that enabled him to state his preferences, understanding better the meaning of good architecture and able to appreciate it with an improved sense of what was suited to his taste, his surroundings and his pocket-book. Cases of this type are legion and in a majority of instances it lies with the architect to gradually lead his client to a fuller understanding of architectural appreciation.

The photographs shown in this portfolio, of a commercial nature, are principally stockbrokers' offices in Pacific Coast cities and show the advanced state of combined taste and efficiency to which these financial firms have aspired.

In particular, attention might be called to the office built in quarters in a large downtown hotel. The existing architecture was not disturbed but through a nice discretion, flooring, fixtures and furniture were made to harmonize with the original design.

The Congregational Church in San Mateo was won in competition and many concede it to be an outstanding example of ecclesiastical architecture in Northern California. Again there is definite evidence

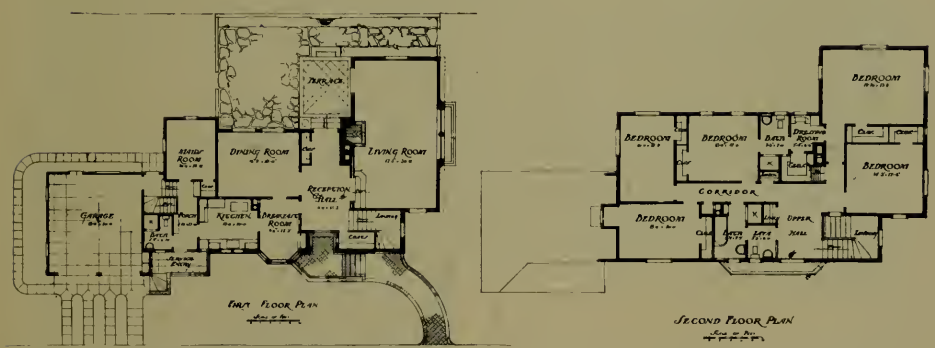
STORE FOR JOHN REX, DANERSK FURNITURE, SAN FRANCISCO
Kent and Hass, Architects

BROKERAGE OFFICE OF E. F. HUTTON & CO., OAKLAND
Kent and Hass, Architects

T. D. Courtright, Builder

ENTRANCE FRONT, HOUSE OF MR. AND MRS. GEO. C. BARRY, ALAMEDA, CALIFORNIA

Kent and Hass, Architects



PLANS, HOUSE OF MR. AND MRS. GEO. C. BARRY, ALAMEDA, CALIFORNIA

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ALAMEDA, CALIFORNIA
KENT AND HASS, ARCHITECTS

Larsen and Larsen, Builders

ENTRANCE FRONT, HOUSE OF MR. AND MRS. ALFRED J. LUNDBERG, ALAMEDA, CALIFORNIA

Kent and Hass, Architects

FIRST FLOOR PLAN, HOUSE FOR MR. AND MRS. A. J. LUNDBERG, ALAMEDA

of a nicely executed and studied plan. Harmony in detail is expressed throughout and as an architectural whole the building is pleasing, dignified and gracious.

The photographs illustrating the residence work of this firm demand but little written explanation. They portray exceptional examples of architecturally sound, well proportioned and thoughtfully planned houses, with attention given to the small details that create a pleasing ensemble. Among the interesting pictures shown in this group of homes are two photographs and plans of a very old house in Alameda before and after receiving architectural treatment.

The gardens illustrated show the results of a well balanced and nicely formulated

Aladdin Heating

HOUSE OF MR. AND MRS. ALFRED J. LUNDBERG, LAKESHORE HIGHLANDS, OAKLAND

Kent and Hass, Architects

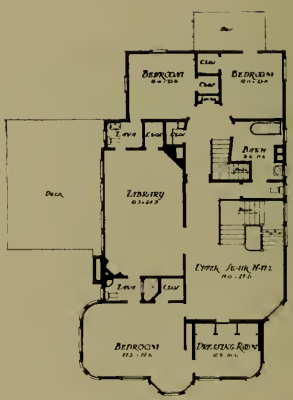
plan. However, the addition of one or two small details by the owner has rather detracted from the general charm of one of the gardens in question.

The summer house of Mrs. Laura B. Westphal at Lake Tahoe, completed about two years ago, has been the center of no little public interest because of its lovely setting and good design. This place was illustrated somewhat fully in THE ARCHITECT AND ENGINEER for August, 1931, and a number of the views are reprinted herewith by request. "Westlake" is not only a summer home for its owner but the house is so completely equipped that it may be used all the year round with comfort and enjoyment.

SECOND FLOOR PLAN, HOUSE OF MR. AND MRS. A. J. LUNDBERG, ALAMEDA

HOUSE OF MR. AND MRS. R. H. SWAYNE, ALAMEDA, BEFORE ALTERATIONS

First Floor Plan

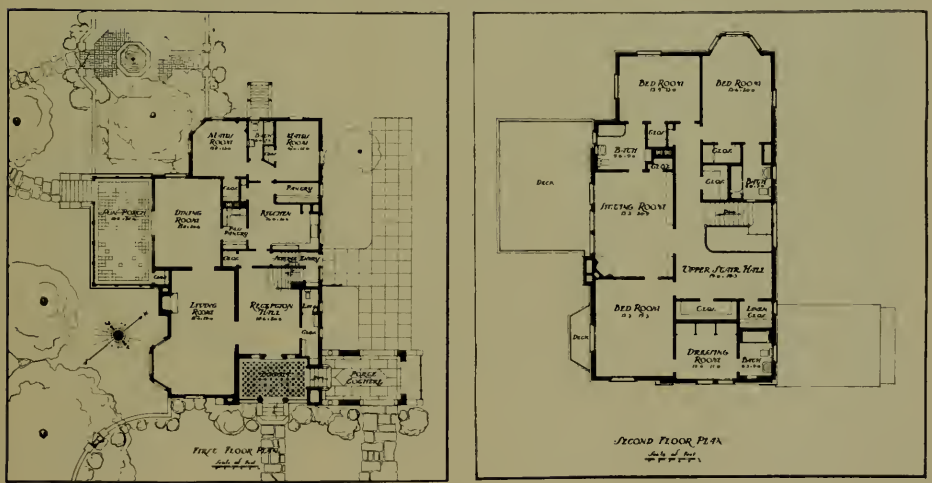


Second Floor Plan

PLANS, HOUSE OF MR. AND MRS. R. H. SWAYNE, BEFORE ALTERATIONS

Jensen & Pederson, Builders

HOUSE OF MR. AND MRS. R. H. SWAYNE, ALAMEDA, AFTER ALTERATIONS
Kent and Hass, Architects



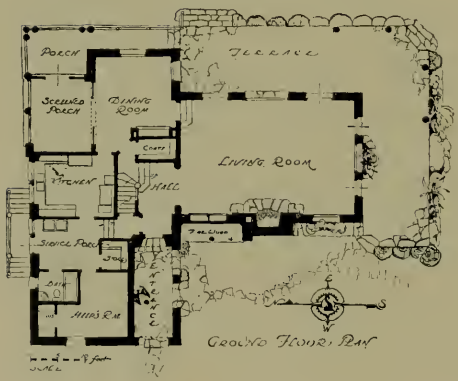
PLANS, HOUSE OF MR. AND MRS. R. H. SWAYNE, AFTER ALTERATIONS
Kent and Hass, Architects

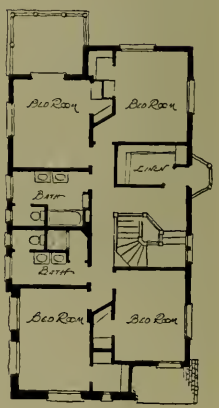
HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE, CALIFORNIA
KENT AND HASS, ARCHITECTS

HIGHWAY APPROACH, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

ENTRANCE FRONT, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

DETAIL OF FIREPLACE, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects





PLANS, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE, CALIFORNIA
Kent and Hass, Architects

DETAIL, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
KENT AND HASS, ARCHITECTS

TEA HOUSE ON THE ARTHUR C. OPPENHEIMER PLACE, ALAMEDA
Kent and Hass, Architects

TEA HOUSE ON THE FRANK C. STRATFORD PLACE, ALAMEDA
Kent and Hass, Architects

AN ARCHITECT WHO WENT AFTER BUSINESS — AND GOT IT

by
R. W. SEXTON* in Pencil Points

IN boom times, the city may offer greater opportunities for an architect than a small town does, but in dull periods the small town is far more lucrative. At least, this was the opinion of Warren Shepard Matthews, a New York architect, who, realizing that he had everything to gain and nothing to lose, closed his city office last May and established quarters for the practice of architecture in New Milford, Connecticut, a small town about two and a half hours from New York by train.

He chose New Milford for several reasons. In the first place, it is readily accessible to the New York market; secondly, many New York people have recently built houses in the locality and they might reasonably be expected to be intelligent enough to recognize the benefits of architectural service; and, finally, there were no other architects located in the neighborhood. His first problem, then, was to get acquainted with these people, who lived there practically nine months of the year, and sell his services.

He engaged a secretary, a local girl, highly recommended by the Connecticut Light and Power Company, and who knew the country and the people. They then made a list of all the residents who were reasonably well off, not including the natives, and mailed them cards announcing that the firm was prepared to take care of all kinds of architectural, building, and engineering work, no matter how small or how large. The local newspaper, recognizing the "news value" of a New York architect establishing an office in the town, assisted in the publicity campaign by running an article on its front page.

Realizing that he might be called upon to do some work which required engineering service, Mr. Matthews interested Henry L. Felt, an engineer, in the idea and their card thus bore the name: Matthews & Felt, architects and engineers. Mr. Felt had been a classmate of Mr. Matthews at Princeton, 1912, and had been brought up in this section of Connecticut.

Their offices, located over a store on the main street of the town, cost the $20 a month. They paid the secretary $12 a week, and they rented a small house where the two partners lived for $35 a month. They took with them a foreman carpenter from New York who, for $7 a day, acted as the superintendent on all work, and employed local labor in all cases—including carpenters, plumbers, plasterers, steam fitters, electricians, etc. These men were only too eager to work for the firm and appreciated the opportunity to carry out plans by a registered architect.

Telephone calls soon began coming in asking for opportunities to consult with the firm on various matters. Their first job was to reverse a pair of casement windows from in-swing to out-swing. The owner com-

*Director, Bureau of Architectural Relations.

plained that during heavy rain the windows, as previously hung, leaked badly. The job was done under the firm's superintendence by a local carpenter and the total charge was $30, including labor, material, and architect's fees of 15%. The owner was delighted with the result and the firm's service had been sold 100% to the first client.

With the aid of personal calls, other work began to come in. The firm built a tractor bridge over a brook that ran through a farm and made it necessary for the owner to drive around a main road for a distance of three-quarters of a mile to reach his farm land that was only 300 feet from the house. The bridge cost $210 and the owner probably will save enough money in gasoline charges and wear and tear on his tractor to pay for the cost of the bridge.

The architect found from a personal call that another owner was depending entirely for water on a rain water reservoir. In dry seasons, especially, he had barely enough water to meet his requirements. Mr. Matthews suggested that they run a one-inch water line to a small stream on the property, an eighth of a mile distant. The job cost the owner $326, including a small sand filter, and he has since had no more worries about lack of water or its quality.

In another case, the firm built a turnaround in the front yard of a house where the owner previously had had to back his car in and out of the garage at great inconvenience. A local contractor had at one time submitted a bid of $175 to build a new road, but the firm of Matthews & Felt had a much better plan and the entire charge for architectural service, labor and materials was $52.

And so it went on, until on October first, four months after the office had been opened, Mr. Matthews reported that the firm had done $36,000 worth of business. Although Mr. Matthews expects to resume his practice again in New York this winter, he has definitely decided to make arrangements whereby he will continue his telephone connection and all calls will be relayed to his city office. And he is even now making plans for enlarging his New Milford office next summer and intends to take two labor foremen from the city to supervise the local workmen. At one time during the past summer he had as many as forty men on the payroll and with a list of three hundred prospects, many of whom he has talked to personally, and with economic matters improved, he looks forward to a better season than he had the past year.

THE HOUSE OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

by
JAMES R. FERGUSON

THE recently completed residence of S. H. Graf in Corvallis, Oregon, is an outstanding example of good house planning. The style of architecture is modified English. Charming in its simplicity, the house is conspicuously lacking in ornamentation or architectural embellishment.

The owner is Professor of Mechanics and Materials at the Oregon State College in Corvallis. The designer, Sheldon Brumbaugh, received his training in architecture at the Fontainbleu School of Fine Arts, Fontainbleu, France, and also additional architectural training at the University of Oregon in Eugene.

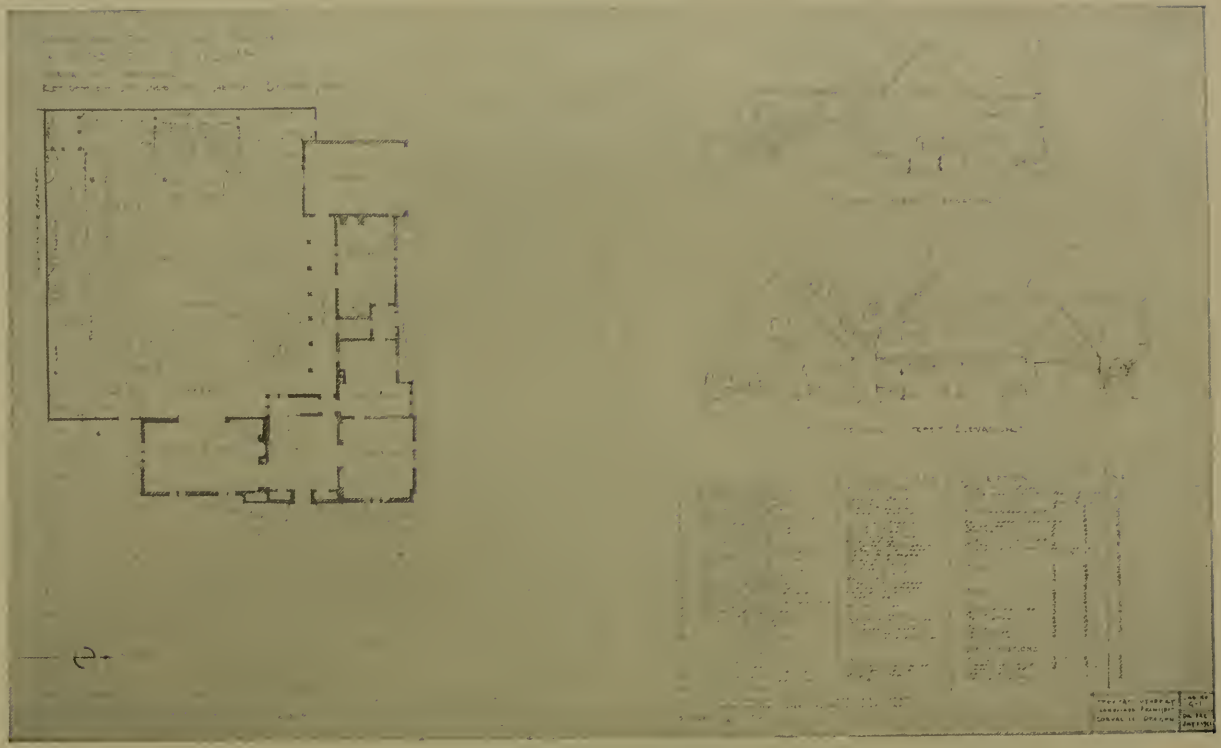
The first floor plan includes an entrance hall, living room, dining room, kitchen with breakfast alcove and rear entrance hall with lavatory and toilet. This hall is also arranged for use as a photographic dark room. The rear entrance hall opens into the laboratory. The second floor plan includes four bedrooms, two baths (one with glass door shower) wardrobe closets in three bedrooms and regular closet in guest room.

The entire attic is floored over and arranged for storage. Joists above the attic floor are 2x10 Douglas fir, this same wood having been used as structural members throughout the building. On top of the lath and plaster of the second floor ceiling, a 2 inch layer of calcined mineral product provides excellent insulation. The material consists of fluffy grains weighing approximately 10 lb. per cu. ft., having a high insulating value and preferable to finer powdered material because it has less tendency to filter through fine cracks which may occur in the plaster.

The doors and wood trim on the first floor are walnut, and on the second floor, Philippine mahogany. Except for the kitchen and laboratory, the floors are oak throughout. In the kitchen is a Douglas fir floor covered with linoleum while the laboratory is floored with concrete.

The laboratory is an interesting feature of the house. It has a rustic ceiling, the rafters being 2x6 with panels between, placed so as to provide an air space of approximately 3 inches. The interior walls of the laboratory are made of an excellent quality common red brick manufactured in Monroe, Oregon. For insulation there is an air space of 1 inch between the inside and outside brick walls. There is also a balcony in the laboratory, reached by a small stairway. This balcony connects at one end with one of the bedrooms in the main part of the house and at the other end with an attic room above the garage. The laboratory is finished in studio style and provides additional space for books and periodicals. Shelves have been installed along the balcony for files of technical bulletins and periodicals. This laboratory is especially equipped for photo-micrographic work, particularly along metallurgical lines.

The outside walls of the house are 4½



LANDSCAPE DESIGN FOR PROPERTY OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

FRED A. CUTHBERT, LANDSCAPE ARCHITECT

DETAIL OF FRONT ENTRANCE, RESIDENCE OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

RESIDENCE OF PROFESSOR S. H. GRAF,
CORVALLIS, ORGEON

PATIO FRONT, RESIDENCE OF PROFESSOR S. H. GRAF,
CORVALLIS, ORGEON

GARDEN FRONT, RESIDENCE OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

LIVING ROOM, RESIDENCE OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

KITCHEN, RESIDENCE OF PROFESSOR S. H. GRAF, CORVALLIS, OREGON

inch face brick, with 1 inch air space, 2-ply Cabot's quilt for insulation, wood sheathing, 2x4 studding, lath and plaster. The roof is of the best 5 to 2 inch cedar shingles.

The heating system is entirely gas-fired, this modern fuel having been selected for its economy, cleanliness and efficiency.

The kitchen of the Graf residence is equipped with a gas range and a gas-fired refrigerator. The gas fuel served in this locality has a heat content of 570 B. T. U., and from June 1, 1931 to May 11, 1932, a total of 379,300 cu. ft. were consumed by furnace, refrigerator, range and water heater, which averages a monthly fuel consumption of approximately 3,298 cu. ft. According to Professor Graf, the cost of this fuel is conservatively 15% less than liquid fuel would be for the same purpose.

Numerous special convenience features have been embodied in this home, such as

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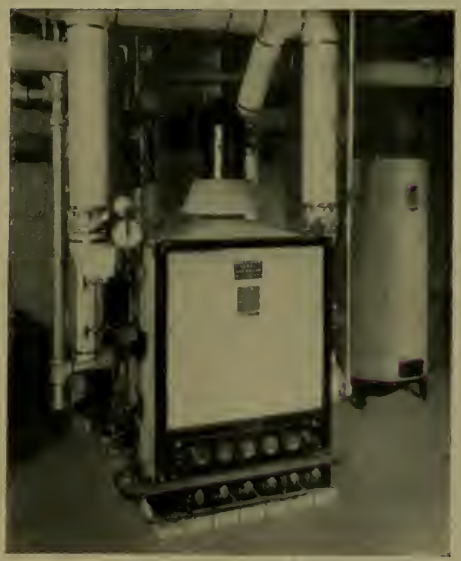
LABORATORY, RESIDENCE OF PROFESSOR
S. H. GRAF, CORVALLIS, OREGON

arrangement of switches and electrical outlets; self-locking milk receiver; garbage receiver; location of electric and gas meters so as to be readable from the outside of the house; mail delivery; wide platforms at the ends of the walks leading to front and rear entrances; living room, games room, master's bedroom and laboratory wired for radio; telephone booth off entrance hall; master's bedroom and laboratory wired for extension phone. There are also many built in features, such as cabinets and drawers, full length mirrors in all bedroom doors, and ventilators in the bathrooms.

The landscape architecture for the Graf residence was designed by Fred A. Cuthbert, Assistant Professor of Landscape Architecture at the Oregon State College. M. C. Phillips, Associate Professor of Mechanical Engineering and Superintendent of Heating at Oregon State College, supervised the heating installation.



BASEMENT OF GRAF RESIDENCE,
SHOWING HEATING PLANT

MODERNIZING MAY BE FINANCED ON INSTALLMENT PLAN

OF the various plans that have been put forward for facilitating and encouraging modernization and rehabilitation, perhaps the one that holds the most direct interest for building owners and managers is the one recently announced by the Rehabilitation Corporation. This organization stands ready not only to help with plans and engineering advice, but also to finance the operation. The corporation, it is announced, is equipped to handle all phases of a modernization program for the owner or his agent, and stands ready to finance such work on the installment payment plan up to $40,000,000.

For months—years, in fact—interest in rehabilitation has been increasing and spreading. Building management interests were perhaps the first to see the possibilities of modernization, both for themselves and the country at large. Many years of inflated business activity, when rents were high and tenants plentiful, had in many buildings staved off obsolescence, or at least the realization of it, for some time. Thus, when the storm broke, these buildings were found to be obsolete, run down and unrentable.

This situation was becoming apparent in fact before the stock market crash, for overproduction was cutting into the renting market long before 1929. A great number of buildings, therefore, badly needed modernizing and repairs, especially when the depression struck with full force. Then the building management group was the first to show that modernization was really a national issue, for when the Federal government began its investigation of means to stimulate industry, particularly the construction industry, this group quickly pointed out that construction had already been overdone, and that the hope for employment in the building trades was in the rehabilitation of present structures. Since that time large interests, including the government, have lent their support, culminating in the appointment by President Hoover of the Committee on Industrial Rehabilitation, under the chairmanship of A. W. Robertson, of the Westinghouse Electric and Manufacturing Co.

With all this, however, financing has been the foremost problem, in spite of the fact that numerous successful modernization jobs have proved the practical possibilities for boosting the income of old properties. This financing difficulty was the principal factor behind the founding of the Rehabilitation Corporation.

With the hope of solving this problem for the owner who was unable to improve his buildings, also to stimulate the business of architects and builders who would obtain employment if these owners were able to improve their properties, a few large industrial companies sponsored the organization of the Rehabilitation Corporation. These companies included the Anaconda Copper Mining Co. and its subsidiary, the American Brass Company, the Crane Company, and the First Bancredit Corporation of Minneapolis and St. Paul. Associated with them are many other large corporations in the building field, including: The Bigelow-Sanford Carpet Co., Carrier En-

gineering Co., Commercial Investment Trust, Devoe & Raynolds, Johns-Manville Corp., Kerner Incinerator Co., Morse Boulger Destructor Co., Otis Elevator Co., Petroleum Heat and Power Co., Preferred Utilities Co., Simmons Co., Richard E. Thibault, Inc., United States Rubber Co., and Westinghouse Electric and Manufacturing Co.

As to financing, a careful survey by the company indicated that in many cases rehabilitation could be made to pay for itself in a period of three years or less from the increased revenue produced. The typical financing plan, therefore, is to arrange installment payments spread over a period of from one to three years. The company will undertake the job on a down payment by the owner of from 10 to 20 per cent of the total costs.

The down payment is made at the time of signing the contract with the corporation, the remaining payments being deferred until the completion of the work. Thirty days after the job is completed and accepted by the owner and the corporation, the owner starts to pay off the balance in equal monthly installments over the scheduled period.

The finance fees charged are very conservative:

For one year	No fee
For two years	2½%
For three years	5½%
Remaining balance	6%

In addition to the actual contract with the corporation, the owner signs a Conditional Sales Agreement, and also gives such other protection as may be deemed necessary to insure the receipt of the monthly payments.

The service the Rehabilitation Corporation makes available to the owner is by no means limited to financing. The company is equipped to take over the whole task from all angles, from original survey of the property and the income expectations to the completed job. In a statement from the corporation the functions it will perform are divided into four subdivisions, as follows:

"1. Careful survey of both technical and economic aspects by an experienced staff of specialists, furnishing the owner an authoritative analysis and estimate involving practicability of design, functional efficiency, economy of operation, rentability and salability of buildings.

"2. In co-operation with owner's architect and real estate agent, detailed plans and estimates of materials and labor for modernization of building, supplemented by the co-operation of the organization of the leading manufacturers of the supplies and equipment required.

"3. Careful supervision of the work by its staff on behalf of owner and mortgages.

"4. The financing of the complete rehabilitation of a building on a deferred payment basis, bearing such modest monthly charges that the owner should be able to meet them readily through savings effected and increased revenue obtained."

In other words, working with the building manager and his architect, the corporation will plan and supervise a complete modernization job, always with the proviso, of course, that the work can be conservatively estimated to pay out. The company points out that it is organized solely for modernization work, stating, "The Rehabilitation Corporation has placed on its staff some of the best experts in all phases of this work, such as problems of layout, income, operation and alteration, and is concentrating on this type of work exclusively. Work of this nature is a science in itself and until now has not been studied as it should be."

For this comprehensive service the company charges a fee which ranges up to a maximum of 10 per cent of the cost of the alteration.

Considerable emphasis is placed on the point of consultation with real estate and management companies. In addition to its own staff the company will from time to time employ real estate firms as consultants.

The company will also execute the final plans, even to the point of letting contracts. When an operation has demonstrated its

chances for success, after accurate estimates as to costs have been made, and after estimates of income and operating expenses have been obtained from experienced real estate men, the company will obtain bids and award contracts, relieving the owner of even the handling of the details, such as paying contractors, in case he is managing the property himself.

Though the company has been in operation for a few months, it has withheld announcement of its plan until it has been tried out in an actual case. This trial job has been completed, and, it is said, with good success, and the company is ready to extend its operations rapidly up to the $40,000,000 limit of its financing. It is hoped that with this aid modernization jobs will be undertaken in greatly increasing numbers, that mortgages and large estates will take advantage of the plan as well as individual owners and managers. It is pointed out that many properties now in foreclosure can be salvaged and made rentable, also salable, by rehabilitation. Also that many a property can be saved from foreclosure if the lending institution will co-operate with the equity owner in making use of the facilities the corporation has built up. As for estates, they can carry on a much greater volume of modernization and rehabilitation with the financing aid thus made available to them.

The first instance mentioned above is a large apartment house at 1361 Madison Avenue, New York, which is on the northeast corner of Madison and 95th Street. This house was thirty-two years old, and hopelessly out-of-date. It contained suites of six, seven, eight, and nine rooms, and even the larger ones had only one bath.

The problem of renting these apartments was so serious, the company says, that the management had advised the owner either to modernize it completely or demolish the structure to save taxes and operating costs. A contract was made between the owner and the Rehabilitation Corporation and the house was completely altered. The interior was changed completely, with new layouts and new decorations and equipment. The exterior shell was virtually the only thing not changed. Some $110,000 was spent on this work.

The job was completed in about three months, being rushed to be ready for the October 1 renting season. And in spite of the fact that it was impossible to show the apartments until about a week before October 1, the renting progressed very satisfactorily. The renting, it is said, demonstrated that the operation was a financial success.

VICISSITUDES OF A YOUNG ARCHITECT

Third of a Series of Reminiscent Sketches of the Early Architectural Practice of the Author

by
ELMER GREY, F. A. I. A.

THE owner of the ranch looked me over and asked me whether I knew how to handle horses. One of the foolish things I had done in Milwaukee one time was to purchase a half-broken broncho that had been shipped there from the west and ride him for awhile. He no longer bucked but that comprised about the full extent of his adaptation to civilized society. So now I could truthfully say that I did know something about horses. "Well then," said the owner of the ranch, "Go out to Hollywood and look the place over. A young Englishman is in charge. After that if you still want the job you can have it."

The ranch consisted of nine acres mostly planted out to young orange trees and had a partially furnished house on it, a large barn and some livestock. It was situated in what now is the very heart of Hollywood's business district. Where then were unpaved country lanes overarched with drooping pepper trees, tall office buildings now rise. Where then were dimly lighted streets, Neon signs now blaze forth at night and Kleig lights shoot fingers of light into the sky announcing film premiers.

The Englishman was very agreeable and assured me that he could show me how to do whatever would be expected of me with which I was unfamiliar. I asked what that might be. "Well," he said, "to hitch and unhitch the horses, milk a cow, and mostly to irrigate and cultivate the orange trees. You will be expected to sleep in the barn, but it's so alive with fleas that you could never stand it. The old man seldom comes out. I advise you to get some blankets and sleep in the house." So I followed his advice and made myself very comfortable. A large irrigating reservoir outside the kitchen door served for a morning plunge.

The Hollywood Hotel had been built at that time and one of the first things I did was to interview its manager. I told her that I intended to take my Sunday dinners there and asked whether there would be any objection to my sitting around there evenings as well, since the empty ranch house would be uninviting. She gave me a very cordial welcome. The first evening I went over I met a man who had known me in my home town and who introduced me to several other guests. Consequently I soon felt acquainted. And frequently as another consequence I worked in a black shirt and overalls on the ranch during the day and in a "tux" joined the dancers at the hotel in the evening. The combination was too much for some of the guests. A hired hand by day and an assumed equal at night was outrageous! So it became the subject of considerable gossip and as such reached the ears of one of my friends. She happened to be a young lady with a lively sense of humor and also a secure position and she decided to have some fun out of it. She reasoned that while they were talking they might as well talk more. She would give them something real and delectable to talk about. So she gave an elaborate ball at the hotel to which she invited some of these outraged guests, and also invited me —and gave me the first two dances on her program!

All this may seem amusing enough now, but at the time it had also another aspect. To like people of your own kind and yet be able to associate with only a few such; to be thrown constantly and intimately with others who do not speak your own language; to be in a community that is growing rapidly and not be able to participate in its growth; to know that you have the talent for such participation yet not feel well enough to use it—all this was maddening.

Our imaginations, ever more expansive than our environments, overleap the barriers of such incongruous situations and resent them. Feeling belittled by the daily round of uninspiring duties they impose, one longs for a larger life, for more constant companionship with those who can

ELMER GREY, EXERCISING HIS EMPLOYER'S SADDLE HORSE ON A HOLLYWOOD RANCH

augment his knowledge, and bring satisfaction to his soul.

So I do not set my experience up as an example. My advice is try to avoid it. If you are young and ambitious, work but rest too. The human mind and the human body are both delicate pieces of mechanism. If you have either one or the other that is like an Elgin watch don't treat it like a Big Ben. Go slower and win by a longer race. To work as a hired hand on a ranch at $25 a month may sound interesting after it's over, but at the time it is not inspiring!

One guest at the hotel was a young lady who owned a saddle horse that was cared for by a stable man in a barn near by. He took his meals at the same cheap boarding house where mine were provided. One of my duties on the ranch was to exercise an hour each day, a magnificent saddle horse that had been left there by the owner. The result was that frequently I lunched with a stable man and an hour later went riding with his fair mistress!

My boss and his wife had gone to Catalina for an extended vacation and while there met some of my friends. When the wife returned she brought one of them back with her as a guest. One day when I was working in the orchard this guest and her hostess suddenly confronted me. The former greeted me cordially, but her hostess did not propose to recognize her husband's hired hand! Finally my friend noticed the omission and turning to her said, "Why Mrs. N——, don't you know Mr. Grey? Permit me to introduce you!"

The job at the ranch finally fizzled out, but the experience, like the good ending in the story book, had two very proper sequels. When I resumed my architectural practice some years later the manager of the Hollywood Hotel became the leading spirit in the project of building the Beverly Hills hotel, a $200,000 enterprise, and to him whom she had formerly known as a ranch hand she gave the commission of planning it! About the same time also the ranch was sold, which threw the English manager who had been very kind to me out of a job; and within ten days time I was able to secure for him even a better job than he had before.

(To be continued)

THIS MODERNISM

by
DWIGHT JAMES BAUM in Pencil Points

A TORRENT of words has been written for and against Modernistic architecture during the time that has passed since the first enthusiast appeared on the architectural horizon. Louis La Beaume of St. Louis, at the recent convention of the American Institute of Architects in Washington, said, at the beginning of a debate on the subject:

"I am rather inclined to the opinion that it is the modernists who are forcing this discussion. The stand-patters seldom have to force anything. All they have to do is to sit tight or stand tight with the weight of custom and inertia and respectability behind them. This, of course, is maddening to the modernists, and the madder they get the more they indulge in excess. The corollary to this statement is that the greater the excesses of the modernists, the greater and naturally the more irritating the complacency of the conservatives."

Personally, I feel somewhat as does Charles Z. Klauder, of Philadelphia, who recently said, "I am so tired of reading of architecture that is functional, of meeting economic conditions, etc." I believe that most of us are trying to forget the discussion. Perhaps it is fortunate that we are building but little today for we seem to be in a period of experimentation when the desire is only for novelty. So short-lived is any given phase of modernistic design that even *Shelter*, the most modern of our magazines, has, in a recent issue, called one of the important new buildings at the Chicago Exposition a case of Infantile Paraylsis. A desire for sensational publicilty seems to fill the air. If any of us, after years of study, do not agree with these methods and ideas, we are accused of being old-fashioned and reactionary.

We still have with us in America many horrors of our own past—that epidemic of Victorian Gothic, the vogue of Queen Anne and Mansard, then the flood of heavy brutal Romanesque, cast iron monstrosities, and so on. Now comes the question: "Are we entering upon another period that will be looked at askance twenty years from now?" Always we of the present think we are different from and superior to those of the past. It is always the past generation that made the mistakes for "the King can do no wrong." Therefore, no one is popular who questions the motives of the present.

Now men are coming forward willing to throw away all of the good accomplished since early Colonial days, each believing himself above the mistakes of the past, yet in some way able to accomplish stylistic originality without considering precedent.

I do not believe that we should copy religiously the Classical or Renaissance or any other of the types that have come down to us, but I do claim that we cannot, as some modernists are trying to do, throw away *all* teachings of the past. We should not be mere copyists. We can, however, still consider the past, even if we *are* at the threshold of the development of a new American Architecture.

To the public and our clients, a building can be a success in only two ways; it can be practical and it can be beautiful. This means that it must function and that it must be good to look at, producing pleasurable emotions, if it is to prove satisfactory. Meeting the first of these requirements is a technical matter, while giving to a building the requisite suitability, expressiveness, and beauty of design is a true art.

Now, an art does not spring up overnight, or in one generation or in ten generations; it grows through the centuries. It is

not created from a formula or out of the consciousness of one man or group of men. It does not result from a mere desire to do something different or from any whim or fancy or from any man's longing to appear in the spotlight.

An art develops as an expression of the life of a people and of the race. Its growth cannot be forced. Its roots must strike deep into the rich, fertile soil of human experience. Seeds of desire for popular acclaim sown in the shallow soil of egotism produce only noxious plants that wither and die quickly. Even the efforts of well-intentioned and earnest men to create an art out of their own limited resources meet with failure. Art expressions that reflect the life and characteristics of the few also perish.

That these things are true can be seen clearly by reviewing the history of any art, particularly the art of architecture, the mother of them all.

The Egyptians, the Greeks, the Romans and all others down to our own day, took what was adaptable to their needs from the architecture of times earlier than theirs. They incorporated these traditions, forms, and principles with their own methods of building, with motives derived from their surroundings and with expressions of their own life and times, creating characteristic styles that grew with the rise of the nations and degenerated with their decline.

Are we so much more highly endowed with artistic ability that we can wisely take an entirely independent course? Or is it simply that there are those among us who are incapable of recognizing their limitations and their opportunities?

Traditionalism is not necessarily reactionary. Anyone who is at all well acquainted with Greek architecture knows that it showed constant growth until it began to decline, and it was developed from older traditions. The same thing is true of each of the great styles.

Consciousness of our own modernity is a good thing; so is our sense of individuality as a people and our desire to solve our peculiar problems. The great nations of the past felt these same things, but did not break with the traditions. They held fast to all that was useful to them and went forward from where they stood.

Regardless of whatever any man or group of men may wish or say to the contrary, that is what we, too, shall do. It is inevitable, for it is the law of natural progress and not to be turned aside.

Our buildings must be modern of necessity, modern in that they meet present-day practical requirements and are built by the methods and with the materials that are most suitable and economical today. But this does not mean that they need to be devoid of everything that recalls the past and be factory-like or ornamented stupidity with zig-zags.

Our buildings must be traditional of necessity, if they are to be satisfactory, for the simple reason that the proponents of radical modernism have not to date produced any new means of giving them the requisite aesthetic qualities, the character and the beauty that are readily available in the historic sources. Radical modernism cannot displace modern traditionalism until it is able to equal the expressiveness, flexibility, and richness of the cumulative results of the thousands of years of earnest effort on the part of the world's ablest architects that are embodied in the traditions. That is rather a large order.

It is true that, in our past, Romanesque was often used in types of structures not fitted to its use, especially before the age of steel when the combination of massive walls and details resulted in dark interiors where light was needed. The same objection holds good in the case of many buildings screened by deep classical colonnades with slit-like windows, providing, with their shaded deep reveals, impossible working spaces beyond.

That does not mean, however, that we are not to use those styles. Any problem must be analyzed and studied to obtain satisfactory results. As an example to illustrate the point, take Richardson's Pittsburgh City Hall, considered a great example of modern architecture when it was built. Then consider the New York Academy of Medicine by York and Sawyer. This latter is not just a "style crib" but a building designed with feeling both as to

its function and appearance. The motifs were both derived from the same source, yet the newer example is alike practical and attractive.

Nothing can be said for the kind of traditionalism that has been responsible for the perpetration of many architectural absurdities during the past thirty years or so, the sort of thing that gave birth to buildings of modern construction, built to serve modern needs, but designed in elaborate historical fashion which interfered with the proper functioning of the building and called for much costly and unnecessary false construction. Building investors objected to that kind of thing more vigorously and effectively than the most violent modernists, for it hit their pocketbooks. It reduced the earning capacity of their buildings in addition to increasing the original cost unduly. They, quite rightly, refused to permit that to continue. But it is this misuse of traditionalism that modernists keep on talking about, something that is no longer a live issue.

Many modernists are not as modern as they would have us think them or as they, perhaps, believe themselves to be. Much of their ornamentation is old Egyptian, Assyrian, or Mayan in basic character and often in its motives as well. Other old sources that are not well known to the public are drawn upon. These designs are not new, but merely unfamiliar, and are rendered with certain mannerisms in an effort to give them the appearance of freshness and to tie them in with the general design of the building. This kind of modern ornament is usually much superior to the inventions, the lightning strokes, and linoleum patterns. There is plenty of this unfamiliar documentary material to draw upon. The old Polynesian, carved-wood canoe paddles, illustrated in a single article in one of our architectural magazines about twenty-five years ago, provide enough fresh designs to ornament the entire modernist output of buildings for a long while to come.

The recourse of modernism to historic sources is not confined to ornamentation, for the origin of the silhouette and massing of many of the buildings, is to be found in older buildings, some in Europe, others far afield. Much of the interior treatment is basically Japanese and it has had an influence upon the exterior design.

So far as the much talked of "abstract ornament" is concerned, the idea is old and perfectly good. Possibly sometime a modernist may produce a design as excellent as the classic egg-and-dart derivative of the old Egyptian painted lotus border or something comparable in beauty to the Saracenic abstractions in fretwork. Objection to traditional design is sometimes made on the ground that it is decoration, but where is the difference in this respect between the egg-and-dart moulding and the favored modernist mouldings. The most pleasing type of modern applied decoration seems to be the old fluted flat pilaster effect of Greek Doric antecedents (with the base and capital shaved off). A very successful example of this treatment is the new Southern Railroad Building in Washington. This seems to be rational surface decoration, when handled with as much skill as is shown here. While there is a feeling of originality, there is still a traditional background worth considering.

We hear a great deal about truth and expression of construction, but how about the trick that has come to be one of the chief formulas of modernism—that of suppressing the spandrels, which mark the floor levels, to create vertical lines on a building? Or what about the other school which stresses the horizontal lines and hides the supports? Is it not better and more honest to enrich the outer shell of a building with good detail of historic origin, used with due regard for modern requirements and construction, than to resort to such juggling of the construction to secure a decorative effect?

The poverty of radical architecture is appalling, its stark nakedness and its feeble attempts at adornment are usually ridiculous when they have not some traditional origin. It drives designers to subterfuges such as the typical one just mentioned.

It is not only in good ornament that modernism is sadly lacking, but in the development of structural elements into architectural forms. The column was a structural

part of the Greek post and lintel system of building, but it was not allowed to remain merely a post. Without any contradiction of its structural function, it was made beautiful. Its part in the construction was even more fully expressed by this treatment. What parallel is there in modernism for this?

The importance of the plan is spoken of as though its recognition were peculiar to modernism and contrary to the practice of traditional design, but was not every well-trained architect who received his instruction previous to the present furore impressed with the fact that the plan must be the starting point of his design and that it must be studied to function in such a way as to serve the purposes of the building?

Starting with the plan in this way, the designing of the building is largely determined by it. The character suitable to the nature and environment of the building is also considered. This decided upon, the appropriate detail naturally follows, all of those elements being combined to make a modern building that is enriched by traditions that give it a completeness and human appeal which radical modernism lacks.

As in any movement, there are men of ability who take the middle course, who design without thought of sensationalism, with respect for the past and in a new spirit, evolving a live architecture. This, I believe, is best expressed in some of the work of the late Bertram Goodhue.

Recently it became necessary for two of the great institutions teaching architecture to issue warnings to their students. The director of the Beaux-Arts Institute of Design warned students in part as follows:

"It would seem to be wise at this time to bring to the attention of the students, particularly in the work of the Beaux-Arts Institute of Design, and their instructors, as well, a growing feeling of conviction on the part of the Juries that the standard of design, as evidenced by the current exhibition, leaves much to be desired.

"We are no doubt in a period of experiment and investigation. The men writing the programmes endeavor to make their problems interesting and stimulating. The Juries, finally, do their utmost to be sympathetic, patient, and understanding. What lies between is the effort of the student and his instructor and we of the Juries can only judge results as we see them. We find a universal tendency to present so-called modern solutions in facade, and the plans suggest the same principle. What we also find, to our annoyance (and it is said advisedly and firmly), is, that the bulk of the work is modern merely in the fact that forms supposed to be characteristic of the new architecture are shown with little understanding of the antecedents of these forms and with little conception of the real basis of modern design.

"Let us face the facts squarely. If modern architecture, by which we mean rational interpretation of new problems, is to be good, we will be just as careful to avoid repetition of unpleasant modernistic detail as the cast incongruities of the Victorian Era. Modern architecture is not going to become a style based on Gropius or Taut: Wright or Corbusier. It will demand intelligent, clearly reasoned solutions of plan —as ingenious as you like, but above all things simple, direct, and honest in the expression of the problem."

The dean of the Department of Architecture at New York University recently issued a statement along similar lines. While recognizing the modern trend as "one of the most significant developments in the whole history of architecture," he emphasized the necessity for arrangement and composition "to satisfy man's love for beauty" and objected to what he termed "a crude mixture of misunderstood modern motives thrown together without regard to construction, functional requirements, or common sense."

Of course many students feel that modern architecture offers a fine opportunity to avoid the research and study involved in working in the various historical styles. This tendency is being curbed which is one of the most hopeful signs. Where we find thorough training in the best traditions of design we find men designing buildings which will endure.

A point forgotten by many men who admit they are modernists is that Goodhue, probably the most original of our able men, did not throw overboard all considerations of the past. Because Cram or Bacon designed in Gothic or Grecian does not mean that they wanted to design only in those periods. Our problems are different from those of any other people and yet a large number of our men have met them so successfully that our architecture has won admiration of the world. Yet some want to start anew instead of continuing on from where we are now. Our only quarrel with a new architecture is on that point. Let us continue if we can to improve, with the hope of eventually developing a distinctive architecture. We can't do it if we start out with cubist methods.

Packing box architecture with misplaced color may be evidence of a striving for a new architecture but it is quite painful while it is being administered. The Chicago Tribune building is modern and new, an able handling of the problem, yet it was based on precedent. On the other hand, some of the buildings of nearly the same mass on Fourth and Seventh Avenues in the New York midtown sections are surely new as to mass and color but also a failure as to all principles of good design.

There seem to be two classes of moderns. The able, thinking men are striving to express modern terms in a manner that will live, the radical element is apparently thinking only of clever effects.

One group appears to feel that the past is endeavoring to shackle the present. Instead of that, it is only showing the way to greater heights and progress. There has been a gradual upbuilding through centuries, now one country, now another, continuing on until now it seems as though *we* have the great opportunity. I hope that we are on the road to a distinctive American architecture, that our approach will be gentlemanly, and that American genius will evolve something of scholarly merit instead of depending on mere superficial cleverness.

Courtesy Southwest Builder and Contractor

PERSPECTIVE OF PROPOSED NEW U. S. POST OFFICE BUILDING, REDLANDS
G. Stanley Wilson, Architect

THE GRAPHIC SIDE OF A GREAT ARCHITECT'S ACHIEVEMENTS

DUE to his prominence as a leader of his profession, coupled with the interest created by a recent exhibition of drawings by the late John Galen Howard, F. A. I. A., THE ARCHITECT AND ENGINEER will publish a series of portfolios of Mr. Howard's work beginning February, and continuing from month to month, until the more interesting subjects of his career have been covered from his first executed project to his final achievement. In presenting this series of original drawings by Mr. Howard's own hand the publishers feel they are meeting a general demand on the part of the many hundred practicing architects and students who spent their preparatory years under his helpful tutelage. Mrs. Howard has graciously consented to the publication of these plates, further reproduction of which is reserved by her. The series of portfolios is intended to give an informative, though condensed, idea of the graphic side of a great architect's achievements.

JOHN GALEN HOWARD

Only rarely have collections of documents as extensive as this of Mr. Howard's work been preserved. In this case it is the more remarkable when one realizes that, during his life time, he moved from Boston to Paris, to New York, to Berkeley, and San Francisco; that his office was burned out in the San Francisco conflagration of 1906 and that, later, his home in Berkeley was much damaged by fire.

Mr. Howard had a systematic way of signing his drawings, even in his school days, so that the works of his own hand are easily identified. The percentage of these autographed drawings is high, especially in view of the many calls on his personal time. His every natural inclination, quite as much as his conviction of an architect's functions, inevitably kept his facile hand busy.

The earliest sketches found among the many portfolios are dated 1883, when the future architect was nineteen years old.

Some of Mr. Howard's earliest "school" drawings are preserved. They were made at the Massachusetts Institute of Technology when he was twenty or twenty-one. Admittedly these drawings are not outstanding indications of genius, (Brunelleschi at about the same age, was competing for the bronze doors of the Baptistry at Florence), but the earliest Howard drawings, nevertheless, reflect skill of hand and fineness of taste. They show, for example that, to his way of thinking, the jigsaw was not an authoritative tool for the builder; not ranking with square, trowel, chisel and plane.

After the Massachusetts Institute of Technology, there came an interlude in his academic training which included valuable contacts with H. H. Richardson, Charles F. McKim and Stanford White; then a short sally into California where he worked on drawings for the old California Theater, on Bush Street, San Francisco, and made some fine water color and pen sketches, (1888) before hurrying east and to Paris.

Portfolios to follow will show the growth of Mr. Howard's talents, and will include drawings from his Ecole des Beaux Arts days, from his work while in New York, and later subjects produced on the Coast.

CAN MINOR WORK BE HANDLED AT A PROFIT?

by
LIONEL L. LEBHAR
Architect

WHENEVER a prospective client announces, "I cannot afford an architect," and therewith ceases to be a client, our professional standing has been attacked. We are an essential part of any building program, regardless of its size, and must combat all opinion to the contrary.

The business we lose annually because of the mistaken idea that an architect is necessary only for work of a certain magnitude may be estimated from any reliable chart of building operations. We find a surprising volume of small work, the bulk of which goes directly to the building contractor and which does not benefit from the services of an architect. Since it would be to the advantage of both owner and architect if most of this work received some form of architectural assistance, it is evident that this field is worth cultivating. In these lean times can we continue to neglect it?

Before we blame either owner or contractor for this elimination of the architect, let us see whether we ourselves are not most at fault. If an owner believes that he is not able to afford an architect instead of understanding that he cannot afford to do without one, may it not be that in too many instances we have proved expensive when employed for minor work? And, if so, should we not readjust ourselves in order to secure business which is available even in these days of depression?

The versatility of the architect, which applies to every phase of building, is perhaps our outstanding characteristic. Yet how very little effort we have made to establish this fact in the public mind! Looking back some thirty years, it would seem that we had actually gone out of our way to convey the opposite impression.

Early in this period architects were sticking pretty closely to their particular muttons. We had the architect who turned out apartment houses principally. The commercial architect who gave us our business architecture without leaving many examples for our inspiration. Our "monumental architects" who were content with most of the important undertakings but sometimes condescended to dabble in lesser work if it was sufficiently "de luxe." It remained for the "small architect," who was willing to tackle anything, to function with any degree of completeness.

As we approach our own times, we find architects using their training and experience with more intelligence. They apply it without discrimination to a wide diversity of building types. A service station, some "tax-payer" or a chain of outdoor refreshment stands receives their attention and immediately it becomes a model for further accomplishment. Would they not serve the public and our profession more truly if they stood aside, as in the past, and left these humble tasks to less capable hands?

While some minor work is done by architects, a great part of it is not. For this we are largely responsible. An august group decides that an individual architect may be dispensed with for residences of six rooms or less and broadcasts the theory. Certainly that does not help promote the idea that an architect is necessary in every building activity.

We do not improve the situation either when we develop a minor operation into a major one, which often follows from our employment. This is what many an owner has in mind, rather than our insignificant fee, when he says, "I cannot afford an architect." Only too frequently we consider a job an opportunity for ourselves instead of a chance to serve a client without permanent injury to his pocketbook.

To understand the owner's point of view on this, we might consider our own relations with our physician. We do not go to his office with a common cold and fear that, to show his skill or from other motives, he will build up a nice case of double pneumonia, because doctors do not work along these lines. But we have no difficulty in recalling many building operations where money was spent far in excess of what the project really demanded. In those instances the architect did far better for himself than for his client.

This brings us directly to the point covered by our heading. Is not our true field that of the building economist, who settles the vital matters of investment and return before going ahead? Unless we are willing to let the belief continue that an architect exists merely to "draw up blueprints" it would be wise for us to travel further in this direction than we have already gone.

In illustration of this idea, let us turn again to another profession. When we consult our lawyer regarding our legal position in some matter we do not expect him to prepare a brief, but to tell us what we may or may not do. Likewise an architect proves his value without drawing a line when he advises a client on any building question.

In either case a service has been rendered for which the client will pay. The objection may be offered that clients seldom do pay architects for advice. That is true but principally because it has been our custom to furnish it gratis as a preliminary to making sketches. These, perhaps, will overcome the victim who may then be persuaded to sign a contract or at least to pay for the drawings!

Unfair as this procedure is to the client it is also unsound from the architect's standpoint. Few sketches thus prepared are ever paid for since they may be altogether unnecessary. Had the building economist instead of the architect been on the job, the sketch stage might never have been reached. A careful analysis of all the facts involved would have uncovered the obstacle which usually upsets propositions of this kind.

As every architect knows, there is nothing quite so dead as a project indefinitely postponed unless it is the sketches which have been made for it. Consequently, however reasonably we charge for them, we are asking payment for something which has no value. Advice, without sketches, would have cost our client much less and answered all requirements.

The trained and experienced architect is particularly well fitted to advise. Unlike the contractor, manufacturer or material man, he is disinterested and impartial. Owners will naturally prefer to come to him for counsel when they understand that they may enter his office without setting wheels in motion which will grind out a "job" at their expense.

Granted that there is much minor work to be done and that we architects can do it if we will revise our outlook somewhat, the question then arises, can we show a profit on this class of business? Unless it is profitable it is not likely that we will care to continue with it after times improve. And then, during the next period of depression, we shall find ourselves as much out of the picture as at present.

Minor work *can* be handled at a profit. We know that certain contractors maintain a jobbing department for small work which would otherwise clog up their organization. They find this small work not only profitable, under such method of operation, but also that it frequently leads to larger things.

We are reminded of a well-known architect who was overheard telling a prospective client that his $150,000 project was not large enough to interest his organization. This may sound wildly improbable at this time but it actually happened less than four years ago.

Strangely enough, this large office did maintain what it termed "the bush league" for exactly this purpose but evidently it

could operate only when a "job" bore the required number of ciphers. To complete the story, we might mention that this architect is now in a far distant country attempting to "drum up" some business.

A large part of the minor work referred to is, of course, residential. This also may be brought within our scope if we are willing to revise our methods in dealing with it.

Much has been written and said both for and against the Architect's Small House Service Bureau. Perhaps the most telling indictment would be that it functions as a wholesaler who, by dealing directly with the consumer, puts the retailer, or the small architect, at a great disadvantage. Moreover the experiment, however "noble in motive," has proved unprofitable.

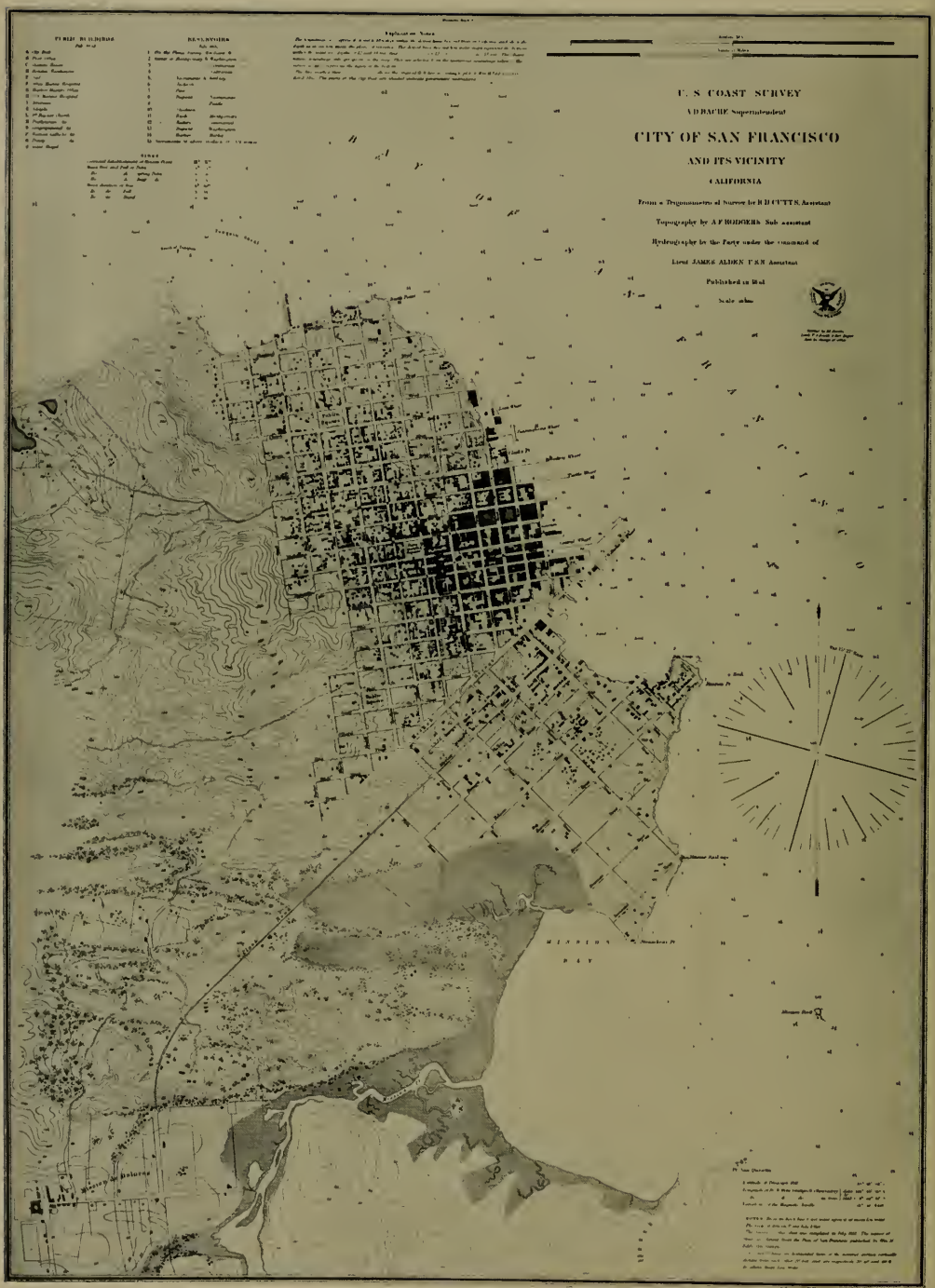
The contention that the small house builder will not or cannot pay the architect's customary fee for complete architectural service is largely justified. Admitting this, we may then be able to suggest an alternative which will allow architects to profit from the small house.

We may admit further that the stock plans of the Bureau are all that is claimed for them. Also, that if a made-to-order plan is financially impossible then a ready-made one is the next best bet. The way is now cleared for a decidedly radical proposal.

Would it not be advisable for the Bureau to discontinue dealing directly with the consumer but, instead, to relinquish this work to architects who desire this business? They, in turn, would select from the stock plans thus made available and, in addition, supply any necessary architectural service, all of which may be done profitably for a relatively small fee. Here is how it might work:

Mr. Brown enters our office and, after raising our hopes by telling us that he wishes to engage our services for his modest dwelling, informs us that he cannot afford to pay our regular fee. We agree cheerfully and then explain what we are able to provide for the price he stipulates he can pay. This, naturally, would be less than our regular service and might be as follows:

First, the selection of a stock plan which our experience indicates most nearly fits the requirements of his case. Then the choice of a contractor and perhaps the drawing up of the contract, after our client has secured estimates from the stock plans and specifications which we furnish. Our supervision we limit to the greatest number of visits the price will allow. The agreement with our client states clearly the extent of our responsibility in order to avoid argument later. Certainly the result obtained under some such arrangement as this would be far better than if we had not been called in at all.—*Architectural Record.*



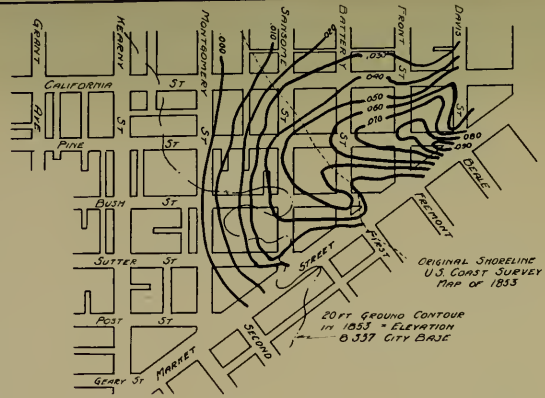
ORIGINAL U. S. COAST SURVEY MAP OF SAN FRANCISCO, 1853

Engineering and Building Construction

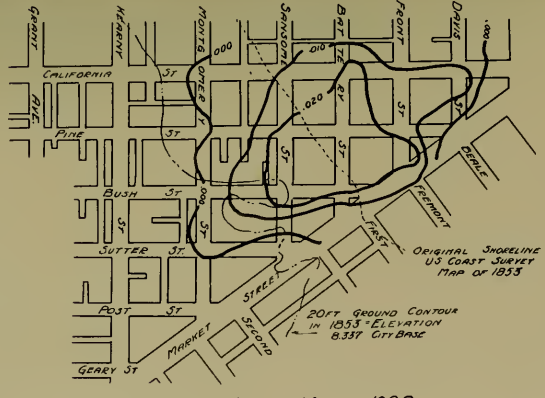
Subsidence and the Foundation Problem in San Francisco

by A. A. BROWN, C. E.

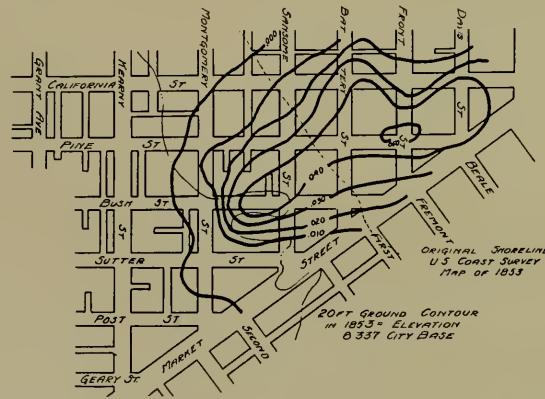
Being extracts and comments of an intensive Report on the soil conditions in the Bay District, prepared by a committee of distinguished engineers, including the author, Hyde Forbes, L. H. Nishkian, James M. Owens and Frank G. White



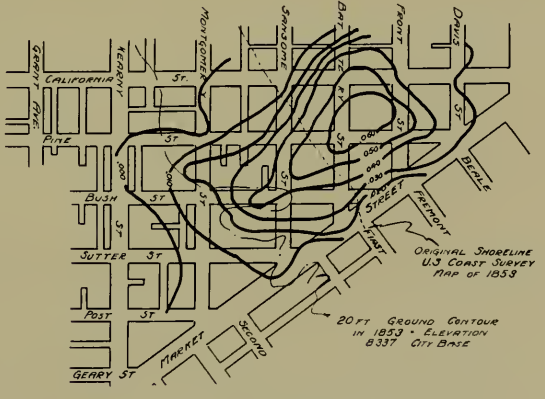
1923 TO MARCH 1925



MARCH 1925 TO MARCH 1926



MARCH 1926 TO OCTOBER 1927



OCTOBER 1927 TO SEPTEMBER 1928

CONTOURS
SHOWING ANNUAL RATE OF SUBSIDENCE
FOR INDICATED PERIODS OF TIME IN THE VICINITY OF BUSH AND SANSOME ST.S

CONTOUR INTERVAL = .010 FT.

DECEMBER 1931

PLATE I

SUBSIDENCE AND THE FOUNDATION PROBLEM IN SAN FRANCISCO

by
A. A. BROWN, C. E.

THE present tendency in American City development is to concentrate building loads on small areas by the extension of buildings upwards, replacing existing substructure loads by yet greater ones. Thus foundation construction is of major engineering importance in all large cities, with the probable further continuation of this trend, producing additional problems during each decade. The only unchanging factor in such engineering problems in any given locality is the character of the foundation material.

Professor Terzaghi, who undoubtedly has given more thought and time toward the advancement of the Science of Foundations than any other person in recent years, was forced to the conclusion that "foundation problems, throughout, are of such character that a strictly mathematical treatment will always be impossible. The only way to handle them efficiently consists in finding out, first, what has happened on preceding jobs of a similar character, next, the kind of soil on which the operations were performed; and finally, why the operations have led to certain results".* Natural materials, used as foundations for engineering structures, do not have the uniform, readily determined characteristics of those used as a base for the development of the laws of the theory of elasticity and other laws or rules in general use by engineers. It is therefore, quite impossible to apply general formulae to natural substance which, like foundation materials, may have varying contents of moisture and which may act, even within certain narrowly defined types, with considerable variance under load due to the continuous application of stress during the passage of time.

It is due to the existing and complicated combination of foundation materials that there exists over large areas of the business district of San Francisco the problem of subsidence. Recognizing the existence of this problem the San Francisco Section of the American Society of Civil Engineers appointed a committee consisting of Hyde Forbes, L. H. Nishkian, James M. Owens, Frank G. White, and the writer as chairman, to investigate the phenomenon of subsidence.† As a result of many varied factors, discussed at some length in the report, subsidence is irregular both as to rate and locality. This is illustrated clearly by Plate I which shows the variation in the annual rate of subsidence for certain indicated periods of time.

**Proceedings Am. Soc. C. E. Nov. 1927.*

†A Report of the Subsoil Committee of the American Society of Civil Engineers published September, 1932.

Editor's Note—Archibald Alexander Brown, chairman of the Committee of Engineers who prepared the soil report, after completing his college course in 1906, successively was employed by the Santa Fe and Southern Pacific Railroads; Assistant Engineer, City and County of San Francisco; Assistant Engineer, Board of State Harbor Commissioners, San Francisco; Assistant Chief Structural Engineer, Panama-Pacific International Exposition; Assistant Chief Engineer, Board of State Harbor Commissioners; engineer in charge of construction for the California and Hawaiian Sugar Refining Corporation, on works costing more than $10,000,000.00.

Since 1921 Mr. Brown has been consulting engineer, representing the California and Hawaiian Sugar Refining Corporation, Limited, and Matson Navigation Company, in construction of the Matson Building, Matson Terminal, etc. In 1922 Mr. Brown was appointed chairman of a committee of A.S.C.E. to investigate and report on "Foundation Problems in the Filled-in Area of San Francisco." Again in 1929 he was made chairman of the Subsoil Committee of the A.S.C.E. to investigate "Subsidence and the Foundation Problem."

MAP
OF THE
City and County of
SAN FRANCISCO
SHOWING
SUBSOIL CLASSIFICATION
WATER FRONT MATERIALS
DEC. 1, 1931
MARINE CLAYS
SWAMP MATERIALS
MADE GROUND
BAY OF SAN FRANCISCO
JOHN McLAREN PARK

PLATE II

Nor is the problem restricted to the filled-in area of San Francisco—it occurs all around the bay region. For example, in Oakland in the neighborhood of Lake Merritt and where the Oakland Auditorium sits, there are proceeding lateral movements of no small magnitude, coupled with vertical movements. That building rests on long piles, but is settling very decidedly. The entire region south of Lake Merritt and between Lake Merritt and the Estuary is not only settling but is moving horizontally in different directions. Thus the problem of subsidence is one vitally affecting all building activities in the San Francisco Bay area.

Discussing the geologic conditions in the City of San Francisco the report, in part, says: "San Francisco presents a variety of foundation conditions with which the engineer must cope. The original topography of the site did not lend itself readily to metropolitan development, having but little area available for buildings, so man improved upon nature in so far as providing building surface is concerned. But subsurface conditions are still in their natural state, covered over wide-spread areas with a manlaid veneer.—(see Plate II).

"It is possible to roughly classify according to their physical characteristics, natural materials existent as foundations in San Francisco, which classification when correlated to the accurate measurements of settlement and displacement of structures thereon, will give some basis for conclusions as to deformation to which each type of foundation material is subjected with time. To show more readily the subsurface conditions a probable contour map of the bedrock was prepared (See Plate III. It was found that the rugged surface of the peninsula is greatly accentuated at depths below the surface by a pronounced canyon underlying the central business district of San Francisco, bedrock dipping from the continuation of Russian Hill slope to a depth of 290 feet below City Base south of Mission Street and thence rising to the slope of Rincon Hill.

"The region long has been one of seismic activity and was depressed with the bay area, allowing the encroachment of the sea, which deposited a body of marine clays in the main topographic canyon and coves.—Large areas were covered by windblown sands, originating principally from the ocean beach.—A sand ridge was built up from Rincon Hill to Telegraph Hill, blocking the surface drainage and forming a swamp in the Mission District.—Thus accumulations of materials overlying the bedrock are found to consist in part of marine clays of considerable thickness and interbedded with alluvial deposits and dune sand. The dune sands are modified by the inclusion of clay and a content of vegetable matter into a somewhat indurated sandy clay where the sands drifted from the west into tide water. They are modified to the extent to which surface drainage assorted them and rendered them aluvial in character in the lower portions of valleys, and are further modified by vegetation into peat bogs where surface and subsurface drainage maintained swamp conditions.

"The filling of the bogs was accomplished largely by dumping in sand which sank out of sight, displaced the mud and caused it to deform, move away laterally, and upheave. The result was the development of a thicker crust to the bog. This crust consisted in part of bodies of sand, sand mixed with mud, and the dried-out bog mud, the weight of which probably caused some drainage and stabilization of the material underlying but which still may be considered as having semi-liquid properties.

"The result of these modifications has been to produce over the original irregular sandy areas more or less level building space, completely, obliterating the old drainage lines. Beneath these areas portions of the pre-existing valleys now act as underground drainage channels for the considerable volumes of water falling on the watershed area. In general these underground systems terminate in the now covered old swamp and pond areas, there keeping the subsurface material in a saturated condition through subsurface drainage. Bordering this area and extending bayward from the original shore line lies a wide area of marine clay and marsh containing a great number of wooden piles and overlaid by a miscellany of sand, rock, wood, and rubbish. Consequently, the en-

MAP
OF THE
City and County of
SAN FRANCISCO
SHOWING
BED ROCK CONTOURS
DEC. 1, 1931
BAY OF SAN FRANCISCO
Areas of rock outcrop
Approximate Contours of Bedrock
JOHN McLAREN PARK
INDIA BASIN
SOUTH BASIN
CENTRAL BASIN

PLATE III

gineer's problem in San Francisco is not limited to excavation and spoil disposition as in many cities, but is far more complicated because: (1) rock lies far below the surface of the greater portion of the building space; (2) ground water may or may not be found in detrimental amounts or under pressure; and (3) plastic clays are covered by fills of unknown but heterogeneous character."

The report goes on to discuss the various types of foundations in use within the area under consideration and presents in the appendix information concerning a number of important structures, together with the record of subsidence. It is pointed out that in driving piles, the same soil strata should be reached to avoid unequal settlement. "In driving piles in the filled-in areas, a firm stratum must positively be reached to avoid subsidence.—To depend upon skin friction in the subsiding area is disadvantageous because the soil serves to help pull the structure down as it settles."

The record is given of one important structure where the average length of piles below cut-off was 111.5 feet under the high portion of the building and 81.4 feet below cut-off in the 2-story and sidewalk areas, with the result that serious subsidence has occurred where the short piling was used while the more important area of the structure has subsided very little. It is true that a pile 81 feet long will, by skin friction, support a very heavy load but the adhesion of the subsiding soil, in time becomes a liability instead of an asset. The recorded experience indicates that within subsiding areas foundations for important structures can be successfully constructed by exercising care; it is, however, no job for an amateur engineer.

Ground water conditions are important where wood piling or timber rafts are used. Dry wood will not decay. Wood is food material for fungi, but they cannot use the food unless it contains at least 15 to 20 per cent of its weight in water. On the other hand, fungi cannot use the food when water is present in excess, that is, when the wood is thoroughly soaked through or is submerged in water. This refers, of course, not only to the present ground water table but any possible future lowering. In a growing city the increase in drainage, deeper foundations, pumping of wells, and a reduced area subject to direct rainfall (due to building and street-work) all tend to lower the ground water level. In one place during excavation for a new building next to a three-story brick building resting on wood piling, it was found that the water table had receded some distance below the top of the wood piles, resulting in a bad case of dry-rot. In other places buildings erected on timber rafts have been subject to dry-rot due to a receding water table, resulting in expensive reconstruction.

The report contains the logs of some 259 test holes distributed over a wide area. —(as shown on Plae IV).

"The importance of thorough subsurface exploration and bearing tests cannot be over-emphasized. However, the value of test borings depends almost entirely on the experience and judgment of the man who examines the material and interprets the results. Therefore, well drilling is of most value when it is directed by the persons charged with the determination of the bearing value of the subsoil. Frequent stops should be made to permit the water level to stabilize, noting with especial care the location of each change of material, the horizon at which water enters or is lost, etc. The wells should be kept open for a sufficient length of time to allow such water level observations to be made as may be required to establish the relation of fluctuations in water levels with respect to rainfall and seasonal ground-water content.

"In considering the load-bearing ability of foundation material, the application of general rules to driller's interpretation of materials is a precarious method. One should know the material considered, its general compactness, its ability to resist flowage or creep, and its other physical characteristics. This means that one should be familiar with the behavior, through experience or training, of the various kinds of material which make up the outer crust of the earth, under varying natural conditions encountered and under artificial loading.

"The sole purpose of the foundation is to take the load of the superstructure and so reduce it that the supporting medium,

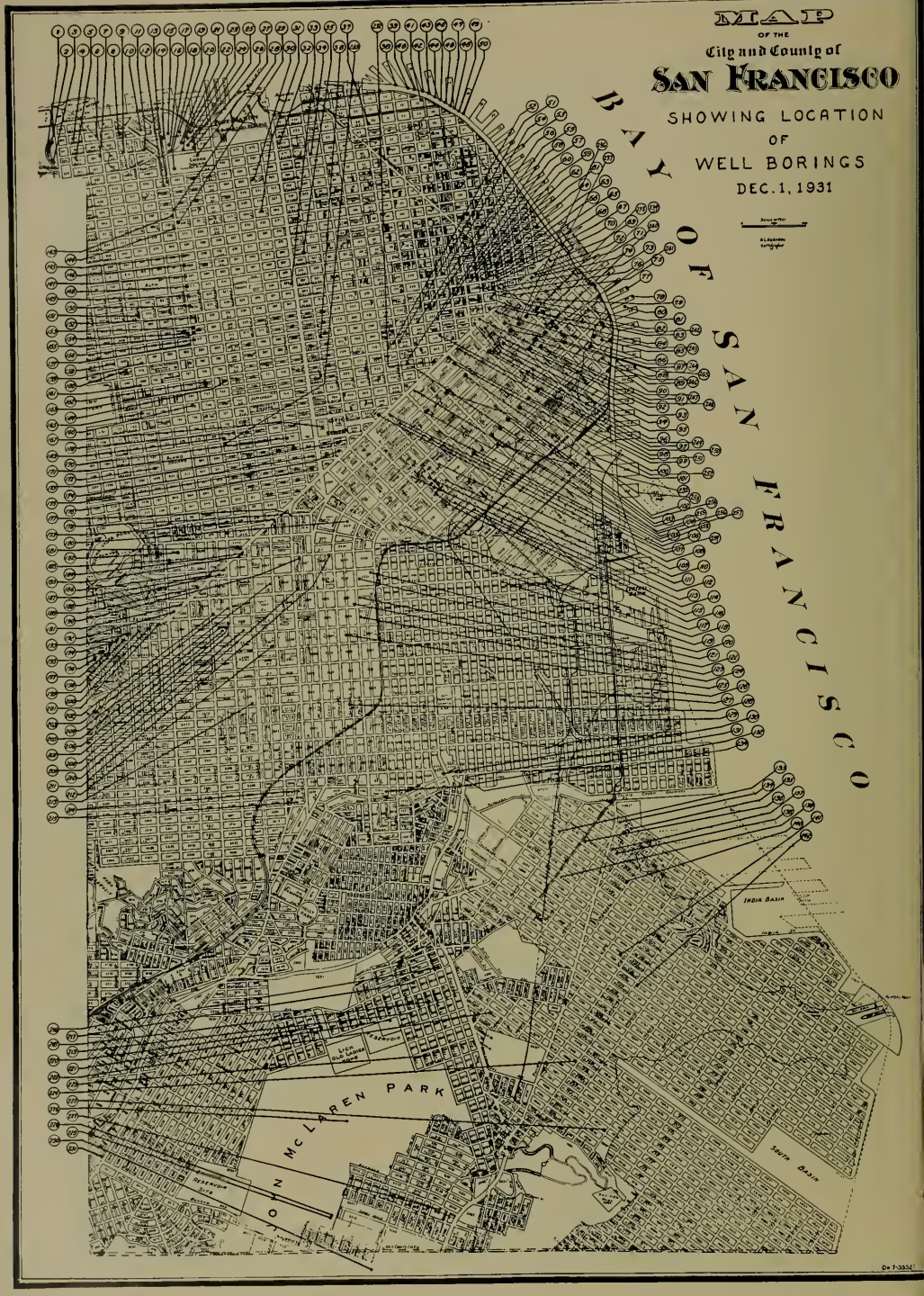

MAP
OF THE
City and County of
SAN FRANCISCO
SHOWING LOCATION
OF
WELL BORINGS
DEC. 1, 1931
BAY OF SAN FRANCISCO
INDIA BASIN
McLAREN PARK
SOUTH BASIN

PLATE IV

namely the soil, may safely carry the weight without serious subsidence. Unequal settlement in an important structure presents many complex and difficult problems. Unsightly cracks and the necessity for frequent realignment of elevator guides, while annoying and some times costly, are of little moment as compared with the difficulties attendant upon a building settling out of plumb and leaning several inches onto the adjoining property.

In reporting for a financial institution in San Francisco, I found the top of a building leaning onto the adjoining property 4½" and one year later settlement had caused it to increase to 5½". Another structure belonging to this bank was leaning 7½" over their property line. Where the potential possibilities for litigation and consequent costly court action threaten, the foundation problem in this complex area assumes a position of major importance to all prospective building owners. Lack of understanding of this problem of subsidence and its relation to proper methods of foundation design and construction is a large contributing factor where difficulties have arisen in the past. The report of the Sub-soil Committee of the American Society is a record of past experience together with a discussion of the problems involved.

PERSPECTIVE, STATE HOSPITAL FOR THE INSANE, CAMARILLO, VENTURA COUNTY.
Designed by Division of Architecture, California State Department of Public Works

A CHARMING BIT OF MEDITERRANEAN ARCHITECTURE

COMPETITION FOR DESIGN FOR A SPRING GARDEN SHOW

SOME twenty contestants participated in the Annual Spring Garden Show Competition which closed in Oakland, January 15th and the drawings are now before the judges for awards. An exceptionally well thought out program was prepared under the direction of Professor J. W. Gregg of the University of California and it has been suggested that the arrangement of this program might be followed to good advantage by the architectural profession for their competitions. Because of this fact and the unusual interest that has been shown in this competition the program is published here in full:

Competition

An organization known as The Spring Garden Show, Inc., a non-profit corporation, has for several years been holding in Oakland, California, a garden and flower exhibition. These exhibitions have attracted state-wide attention because of the high artistic merit which has been the result of their being developed around one controlling landscape or garden motif. It is the desire of the sponsors to maintain the already high standard of excellence in general design and composition of the exhibition as a whole. In order to assist in accomplishing such results, they propose to inaugurate a competition for designs for the 1933 exhibition.

The competition will be under the direction of Professor J. W. Gregg, member of the American Society of Landscape Architects, who has been appointed professional advisor, and will be conducted in compliance with the rules and regulations of the American Society of Landscape Architects with the immediate sanction of the northern section of the Pacific Coast Chapter.

Competitors

This competition is open to technically-trained professional landscape architects, landscape draftsmen and students of landscape architecture who are residents of the State of California.

Compensation to Competitors

The sponsors of the competition agree to pay the winner immediately after the judgment of the jury the following:

For 1st Prize Design	$150.00
For 2nd Prize Design	75.00
For 3rd Prize Design	50.00

There will also be a 1st Honorable Mention, for which no cash award will be made.

Jury of Award

1. Frederick Noble Evans, Fellow of the American Society of Landscape Architects, Landscape Architect for the City of Sacramento, California.
2. Thomas Vint, Member of the American Society of Landscape Architects, Chief Landscape Engineer, National Park Service, San Francisco.
3. Howard Gilkey, Member of the American Society of Landscape Architects, Oakland, California.
4. L. Deming Tilton, Member of the American Society of Landscape Architects, Director of Planning, Santa Barbara, California.
5. George Budgen, Nurseryman, Berkeley, California.

The Spring Garden Show, Inc., and the competitors agree that the jury has authority to make the award and that its decision shall be final.

THE COMPETITION

The Problem—Mandatory

The design of "A Spring Garden Show" which shall consist of drawings made to scale showing the complete use of the floor and wall space of the Exposition Building and conforming to the following requirements:

1. TIME—Dates of Show, April 21 to 23rd, inc.
2. COST—Complete installation of the construction work and decorative features of the plan, exclusive of the exhibitors' costs, shall not exceed $3500.00. In this total must be included sods, cut greens, etc., furnished by the Show.
3. WALKS--Provision must be made for the comfortable assembling of 5000 persons at a given time. An average width of walks of twelve feet is suggested as a working basis. Exigencies of design may cause the reduction of this width, but in no case shall any walk used for general circulation be less than ten feet in width.
4. STYLE—One of the purposes of the Spring Garden Show is the presentation to the public of correct standards of garden design and construction. With this motive in mind the design of the whole Show should be uniform in style. Last year's Show was of a highly formal Moorish-Spanish design. It is the desire of the Board of Directors to deviate as much as possible from such effects. More informality, less structural features and less expensive details are suggested.
5. EXHIBIT SPACES—In general, the Show is divided into the following main sections:

(A) Main garden ensemble, including walks and features, shall occupy approximately 32,500 sq. ft.
Provision is to be made for 10 large nursery exhibits 24′ in depth, approximate total net 7500 sq. ft.
Areas of beds for greenhouse potted plants, pansies, bulbs, irises (all rich in color) approximately 5000 sq. ft.
Six large model garden exhibits by Clubs approximately 4500 sq. ft.
Incidental smaller plots for specialists and small nurseries, amateur flower beds, etc., approximately 3000 sq. ft.

(B) Commercial Cut Flowers.
Five spaces for commercial cut flower growers.
Eight spaces for retail florists, preferably separated from each other, approximately 3000 sq. ft.

(C) Amateur cut flowers — novice class, approximately 2000 sq. ft.

(D) Amateur cut flowers—arrangement and Garden Club ensemble displays, approximately 3000 sq. ft.

(E) Trade section—garden supplies and accessories 8000 sq. ft.
Unallotted—approximately 4000 sq. ft.
Total Building Space 52,500 sq. ft.

6. THE SITE.

The entire floor area and walls of the Exposition Building, located at 10th and Fallon Streets, Oakland, California, as shown on the plan and elevations, is made the basis of the competition. The floor of the Exposition Building is of earth and may therefore be used with some freedom as regards breaking into its ground surface where necessary. (Permission can be obtained to visit the site.)

7. PRESENTATION OF DRAWINGS—Mandatory. The drawings shall be submitted in the following manner:

(a) Complete plot plan of floor area showing general garden scheme, walks, exhibit spaces and features, drawn at a scale of 1/8th inch equals one foot, with longitud-

inal and cross-sections on same sheet at the same scale.

(b) A bird's-eye-view freehand perspective of the general plan from best vantage point. Included on this drawing may be one or more detailed sketches in elevation or perspective as may be necessary to show the scheme and help to estimate costs.

(c) An estimate of cost is to be included on the general plan.

(d) Drawings shall be made in full black ink, in pencil or crayon on white illustrator's board. Diluted ink, color or wash is prohibited.

(e) Each sheet is to be exactly 14"x28", with single black border lines drawn to frame interior space 12½"x26½". Graphic scale must be shown. Each sheet shall bear the title "Design for The Spring Garden Show, Inc., submitted in Competition."

(f) Each sheet shall be signed by a nom de plume.

Materials to be used shall be designated either on the plan or by symbols and legend. Such information shall be sufficiently definite to allow the making of preliminary estimates of cost, example: "board edging", "sod", brick pavement". No specification need be made of width of boards, kind of brick, etc.

Consideration of Jury of Award

1. Artistic merit of the entire design.
2. Excellence and ingenuity of the design.
3. Practicability and simplicity of construction.
4. Fitness and economy of design as a whole to meet the needs and spirit of the problem. Too costly a design will lower its rating.
5. Adaptability to season. (Third week in April.)

Communications—Mandatory

Contestants shall not communicate on the subject of this competition with the professional advisor, members of the jury, or with any other person in any way connected with it either directly or indirectly.

Anonymity of Drawings—Mandatory

The drawings submitted shall show no distinguishing mark except the nom de plume, which serves as a means of identification. Every set of plans submitted shall be accompanied by a sealed envelope bearing on the outside only the words "This envelope contains the true name and address of the competitor whose nom de plume is ....."

These envelopes will be retained unopened by the professional advisor until the jury has completed its award. No competitor shall directly or indirectly reveal his or her identity to a member of the jury or to the professional advisor.

Delivery of Drawings—Mandatory

The drawings submitted in this competition shall be securely wrapped flat and addressed in plain lettering to The Spring Garden Show, Inc., c/o Mr. Abe P. Leach, Tribune Tower, Oakland, California. The return address required by postal or express regulations must not be the name and address of the competitor, members of his family or his partner, but of a person who could be notified by the transport agent in case of non-delivery. Drawings shall be delivered not later than 5:00 o'clock on January 15, 1933. Drawings submitted are at the competitor's risk. Reasonable care, however, will be exercised in handling, and storing all drawings. Drawings not receiving prizes will be returned upon request of competitor.

Examination of Designs

The professional advisor will examine the designs and records of their receipt to ascertain whether they comply with the mandatory requirements of the program and will report to the jury any instances of failure. The jury will satisfy itself of the accuracy of the report and will place out of competition and make no award to any design not complying with the mandatory requirements.

Announcement of Award

The professional advisor will send by mail the names of the winners of the prizes to each competitor as soon as possible after the awards are made, and the envelopes have been opened.

Ownership and Use of Designs

All prize designs become the property of The Spring Garden Show, Inc., and the Association reserves the right to use, publish or show in any way beneficial to the Association.

BOOK REVIEWS

By Edgar N Kierulff

PLANNING AND BUILDING THE CITY OF WASHINGTON—Edited by Frederick Haynes Donald. Published by The Washington Society of Engineers, 810 Rhode Island Avenue N. E., Washington, D. C. Price $2.00.

A most interesting book prepared by a group of engineers and architects who thoroughly know Washington and have aided in the designing and laying out of the city.

By carefully arranged and chosen photographs, the book is illustrated in a manner that materially enhances its value as a document recording the progress of planning and beautifying the capitol of the nation. There are eighty-two halftones, eight maps and five charts and appendix and index, with two hundred and forty-five pages of reading matter exclusive of the introduction.

AIRPORTS—Their location, administration and legal basis, by Henry V. Hubbard, Miller McClintock and Frank B. Williams, assisted by Paul McHoney and Howard K. Menhinick. Published by the Harvard City Planning Studies, Vol. I, Harvard University Press, Cambridge, Mass. Price $3.50.

This volume comprises three reports made after a careful survey of eighty-five airports in thirty-two states, with a thoughtful analysis of the data so obtained in which the co-operation of many airport officials and well informed persons has been incorporated. The contents includes Chapters on administration, fiscal policy, management, physical characteristics, etc. There is an elaborate appendix with statistical tables.

TOWN AND COUNTRYSIDE — Some Aspects of Urban and Rural Development—By Thomas Sharp. Published by the Oxford University Press, 114 Fifth Avenue, New York City. Price $4.50.

A plea for the countryside to be permitted to remain rural and for towns to remain towns and to discontinue the degradation and annihilation of both. Upon this point, the author has based his argument and this book details that argument, in a manner intensely interesting, with a certain provocativeness and charm that renders it quite different.

[Concluded on Page 77]

« « « « With the Architects » » » »

OAKLAND PARK DEVELOPMENT

The Oakland Playground Commission has approved a general plan submitted by Engineers Huffey and Belcher for the development of the recently acquired Davie Park. While no funds are available at this time it is thought that sufficient money for grading the property may be obtained from the $3,000,000 relief bonds, voted a short time ago. This would give employment to quite a few. Later on, the Park will be further developed by the construction of a swimming pool, bath houses, open air theater, and bleachers.

FRESNO AUDITORIUM

Preliminary plans have been prepared by Charles H. Franklin, Patterson Building, Fresno, for remodeling the exterior and interior of the Municipal Auditorium at L and Kern Streets, Fresno. The building covers a ground area of 175x150 feet and Mr. Franklin's plans call for complete modernization in addition to construction of a balcony which will materially increase the seating capacity. A bond election to take care of the estimated cost of $175,000 is contemplated.

ARCHITECTS BUSY

The firm of Masten & Hurd, 233 Post Street, San Francisco, has been quite busy since the first of the year, having been commissioned to prepare plans for a number of oil stations for the Associated Oil Company, in addition to some residence work. The firm has recently awarded a contract for a new home in St. Francis Wood for Ralph A. Head at a cost of $6193. Mr. Hurd, member of this firm, has lately returned from a trip to New York.

BUNGALOW TYPE QUARTERS

Plans have been completed by the Constructing Quartermaster at Fort Mason, San Francisco, for eleven officers' dwellings of the bungalow type to be constructed at Hamilton Field, Marin Meadows, California, in connection with the bombing base there. Bids will be opened early in February. All of the houses will be of hollow tile, the group representing a probable outlay of $150,000.

FORD COMPANY SUED

The Ford Motor Company, Delaware corporation, has been sued for $68,093 by the Clinton Construction Company of San Francisco, which alleged refusal to pay a balance due on the contract for construction of the Ford assembly plant in Richmond.

The complaint, filed in Federal court, said the Clinton Company completed its part of the contract September 17, 1931, and that the Ford Company had "consistently" failed to complete payment.

BERKELEY AUTO DISPLAY BUILDING

A one story frame and brick veneer auto display building is to be erected on the southeast corner of Couper Street and San Pablo Avenue, Berkeley, for the Berkeley Auto Wrecking Company. The owner is Mary C. Nordyke and the architect is Guy L. Brown, American Bank Building, Oakland.

TWO OAKLAND RESIDENCES

Preliminary plans have been prepared by Leonard A. Ford, architect of Oakland, for two dwellings, one a Spanish house to be built in St. James Wood, and the other an English residence in Oakmore Highlands.

BURLINGAME RESIDENCE

A contract has been awarded to G. P. W. Jensen, 320 Market Street, San Francisco, to build a stucco residence in Burlingame for Dr. S. Pope, from plans by W. W. Wurster, architect, 260 California Street, San Francisco.

RESIDENCE ADDITION

A. A. Cantin, 557 Market Street, San Francisco, has completed drawings for a two story frame and stucco addition to the Seacliff home of C. W. Burkett, estimated to cost $4500.

PRIVATE STABLES

Gardner A. Dailey, 210 Post Street, San Francisco, has prepared plans for stables and garage at the Woodside Estate of George Whittell, Jr. Construction will be frame and brick veneer.

LODGE BUILDINGS

The Oroville Aerie, Fraternal Order of Eagles, will build a $15,000 hall and lodge home.

The Vallejo Lodge of Elks plan to erect a new home next spring to replace their old building, recently destroyed by fire.

Woodmen of the World at Fresno will replace their home, recently destroyed by fire, with a new structure at an early date.

REMODEL OAKLAND BUILDING

Extensive remodeling to the two story Class C building on Broadway, adjoining the Capwell Store, Oakland, formerly leased as a dance hall, is planned by the owners, the Twentieth and Broadway Realty Company. The work will be handled by Wilbur C. Cone under the direction of the architect, Albert J. Evers. Earl Cope is the engineer.

PALO ALTO ARCHITECT BUSY

Birge M. Clark, 310 University Avenue, Palo Alto, has recently completed drawings for a concrete mausoleum and columbarium to be erected near Palo Alto for the Alta Mesa Cemetery Association: also, a one story Class C store building in Palo Alto and a community theater and auditorium in the same city.

REMODEL GARAGE

Sam Heiman, architect, 605 Market Street, San Francisco, is preparing plans for alterations to the garage and auto sales building on Sir Francis Drake Boulevard, San Anselmo, owned by C. O. Durham. It is planned to convert the garage into a dance hall.

HILLSBOROUGH RESIDENCE

Plans have been completed in the office of Willis Polk & Company, 277 Pine Street, San Francisco, for a $12,000 residence designed in the Spanish Colonial style and to be built in Hayden Road, Hillsborough, for Hugh L. Clary of 716 Crescent Avenue, San Mateo.

TWO STUCCO DWELLINGS

The Clausen Architectural Studios, 746-46th Avenue, San Francisco, have prepared drawings for Kenneth Evers who will build four two-story, frame and stucco dwellings on Quintara Street, between 18th and 19th Avenues, San Francisco, at an estimated cost of $5200 each.

MODESTO MARKET

A one story Class C drive-in market will be built at 9th and H Streets, Modesto, for M. E. Angelo from plans prepared by George M. Hilburn, architect of Modesto.

CALIFORNIA STATE BOARD OF ARCHITECTURAL EXAMINERS

Albert J. Evers, *President*	San Francisco
A. M. Edelman, *Vice-President*	Los Angeles
H. C. Chambers, *Secretary*	Los Angeles
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Henry H. Gutterson	San Francisco
Frederick H. Meyer	San Francisco
John Parkinson	Los Angeles
Warren C. Perry	San Francisco
Raymond W. Jeans	*Advisory Engineer*

FEBRUARY EVENTS

February 1—Closing date for entries in competitions for fellowships at the American Academy in Rome. Address Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York City.

February 23-25—Eleventh annual North American Conference on Church Architecture at the Stevens Hotel, Chicago. An exhibit of ecclesiastical architecture will be held under auspices of the "Christian Herald."

April 23-30—Better Homes week, an educational movement under auspices of Better Homes in America, 1653 Pennsylvania Avenue, Washington, D. C. Demonstrations of new and remodeled houses, lectures, contests, etc., are urged.

June—"A Century of Progress," International Exposition at Chicago.

LICENSE FEE REDUCED

At the special meeting of the California Board of Architectural Examiners, on December 17, the annual license fee of California architects was reduced from $10.00 per year to $6.00 per year, for the current year.

At the regular meeting of the Board on November 29, the following candidate was granted a Provisional Certificate to practice architecture in the State of California: Carl Frederick Gromme, 3469 Jackson Street, San Francisco, California.

SAN FRANCISCO RESIDENCE

Richard R. Irvine, 2048 Market Street, San Francisco, is preparing plans for a two story, frame and stucco Spanish style residence to be built in the Marina District, San Francisco, for Ben Liebman of 1555 Francisco Street.

BERKELEY RESIDENCE WORK

New work in the office of Edwin L. Snyder, 2101 Addison Street, Berkeley, includes an English home for Rev. Roger Peters; a house on Cragmont Avenue for C. Walker and a house in North Cragmont for Dr. George Oulton.

PASADENA POST OFFICE

Marsten and Maybury, 25 South Euclid Avenue, Pasadena, have been commissioned to prepare plans for a $300,000 addition to the Pasadena Post Office building.

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PERSONAL

ELMER R. STEM, architectural draftsman of Los Angeles, has been elected as one of twenty-five draftsmen to compete in the national competition finals for the design of double-hung sash windows, promoted by the Samson Cordage Works of Boston.

RUSSELL RAY, formerly at 27 W. Mission Street, has moved to 1205 Nopal Street, Santa Barbara.

M. L. BARKER of Los Angeles has been appointed chairman of the "small building committee" of the State Association of California Architects, according to an announcement by President Robert H. Orr. Other members of the committee are: Robert H. Ainsworth, Douglas H. McLellan and H. O. Sexsmith.

KEPLAR B. JOHNSON has opened an architectural office at 902 Fourth Ave., Seattle. He has prepared plans for a brick veneer residence on Victory Heights. Mr. Johnson for ten years worked as a draftsman in the offices of Schack and Young, and David J. Myers, and received training at the University of California.

SILAS E. NELSEN and FRED G. ROUNDS, architects with offices at 905½ Commerce Street, Tacoma, announce the termination of their association. Mr. Nelsen will maintain his office at 405 South Sheridan Ave., Tacoma, while Mr. Rounds will be at 828 W. R. Rust Building, Tacoma.

C. FRANK MAHON, architect, has moved his office to 404 Pantages Building from the Orpheum Building, Seattle. He is now preparing plans for an $85,000 church in West Seattle.

H. A. MOLDENHOUR, formerly member of the firm of Lawton and Moldenhour, is now occupying quarters at 432 Republic Building, Seattle.

VERNON W. HOUGHTON, formerly of San Francisco, is now associated with Pacific Systems Homes, 5800 S. Boyle Ave., Vernon, having charge of the plan department for that company.

STARKS & FLANDERS, have moved to 310 Bank of America Building, Sacramento.

ARCHITECTURAL EXAMINATION

The regular examination for registered architects in the State of Oregon will be held early in February. Architects desiring to take the examination are invited to get in touch with Margaret Fritsch, Secretary, 807 Spalding Building, Portland, Oregon.

SUBSCRIBERS MOVE

A. A. CANTIN has moved to 557 Market Street, San Francisco.

THOMAS M. EDWARDS has moved to 525 Market Street, San Francisco.

PRING & LESSWING are now at 525 Market Street, San Francisco.

CLARKSON SWAIN has moved to 2001 Pierce Street, San Francisco.

GEORGE E. ELLINGER has moved to 1801 Casterline Road, Oakland.

HORATIO W. BISHOP is at 1245 Stearns Drive, Los Angeles.

J. CLIFFORD SMITH'S new address is at 5959 West Third Street, Los Angeles.

HERMAN LOUIS BODMER moved to 4001 Illinois Street, San Diego.

EDWARDS & PLUNKETT have moved to 116 East de la Guerra Street, Santa Barbara.

WM. LYLE SKINNER, mining engineer, has moved from Lone Pine, Inyo County, to 1709 Alder Street, Eugene, Oregon.

WILFORD S. BOGUE has moved to 1409 Virginia Place, Fort Worth, Texas.

AUGUST GEIGER has moved to 731 Lincoln Road, Miami Beach, Florida.

DAVID H. HOLMES has moved to 51-5th Ave., New York City.

ARCHITECT PLACHEK'S BEREAVEMENT

James W. Plachek, architect of Berkeley, has the sympathy of his many friends in the passing of his wife in the Oakland hospital on December 31. A son was born to Mr. and Mrs. Plachek the day before Christmas. Mrs. Plachek was stricken with pneumonia before her baby's arrival and despite the mother's brave fight her vitality was not sufficient to carry her through the crisis of her illness. Mrs. Plachek was 36 years old and a graduate of the University of California. Mr. and Mrs. Plachek had only recently moved into their beautiful new home at 727 San Luis Road, Berkeley.

WOULD DESIGN FEDERAL BUILDINGS

Washington Architects, Inc., is seeking to get action on the construction of Federal buildings in the State of Washington, particularly the nine projects allocated for early consideration, according to A. M. Young, Seattle director and member of the architectural firm of Schack and Young. The nine projects on which there is a fair prospect of getting action are the Federal office buildings at Bremerton, Centralia, Chehalis, Spokane, Shelton, Montesano and Kelso, and the quarantine stations at Port Townsend and Laurier.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

Note New Wage Scale

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Dunaflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bbl
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $18.00 per M (average).
Common O.P. select, average, $22.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	42.00 per M
1x4 No. 2 flooring	36.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$30.00 per M
1x4 No. 3 flooring	26.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.
1 1-16x2¼" T & G Maple	117.00 M ft.
⅞x3½ sq. edge Maple	110.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$176.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	6.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.35 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.
1 ton lots, 100 lbs. net weight 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$ .90 lineal foot
8-inch..... 1.30 lineal foot
10-inch..... 1.50 lineal foot
12-inch..... 1.75 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped)..... .17
2.5-lb. metal lath (galvanized)..... .20
3.4-lb. metal lath (dipped)..... .22
3.4-lb. metal lath (galvanized)..... .23
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$78 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $71 to $75 per ton cost of steel; average building, $77.00.

Steel Reinforcing—

$68.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it haa been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

Chapter and Club Meetings

WASHINGTON STATE CHAPTER

The December meeting of Washington State Chapter, A.I.A., was held at the New Washington Hotel, Seattle, with a good attendance.

The minutes of the last regular meeting were read by the secretary and approved. This was followed by the report of the treasurer, which was likewise approved.

Reports of committees being next in order; Mr. Albertson, the chairman of the committee on proposed by-law revision providing a tax on salaries and commissions, reported that the committee, having decided on an amount of exemption for annual salaries on which dues would be collectable as $2,600, it was proposed to amend the by-laws to include dues from salaries and consultation fees, the dues from salaries to be at the rate of $8.00 for each $1,000 of salary received annually in excess of $2,600, and from consultation fees, $5.00 for each $1,000 in excess of the first $1,000 received.

The proposed amendments were adopted with a further amendment that one-half of the dues received from these sources, or larger proportion if the members so desired, be added to the endowment fund, but it was voted that this assignment to the endowment fund be temporarily suspended as was the case with dues from commissions.

Mr. Young reported for the Washington Architects, Incorporated, that progress was being made through correspondence with senators and representatives in Congress, treasury officials, Chambers of Commerce and others, to promote the purposes of the organization, to give publicity and extend its influence; and this was being given continuous attention.

The president announced that Mr. Albertson had been appointed to represent the Chapter in the consideration of reported violations of the Seattle Building Code in apartment house building.

The report of the nominating committee was presented by Mr. Ford in the absence of the chairman, as follows:

For President—J. Lister Holmes.
For 1st Vice-President—R. F. McClelland.
For 2nd Vice-President—Ernest T. Mock.
For 3rd Vice-President—Harry C. Weller.
For Secretary—Lance E. Gowen.
For Treasurer—Albert M. Allen.
For Executive Board, 3-year term—Frederick V. Lockman.

For Delegates to the Institute convention, with the president and secretary, delegates ex-officio—R. F. McClelland, George W. Stoddard and Harold C. Whitehouse.

Letcher Lambuth, realty dealer of Seattle, after a few preliminary remarks relative to general conditions affecting business locations, proceeded to demonstrate a scientific study his firm had made of use zones in Seattle down town real estate. By means of a relief model of the business area, and colored poker chips, he showed how the proper location for a given merchant could be determined. In this interesting visual way, Mr. Lambuth showed how intersecting lines from main centers of pedestrian flow agreed with the traffic count on various streets, how certain sites had been wrongly occupied, noting the zones of distress leases, the movement of retail centers and other interesting findings in relation to business location.

In response to some questions asked by Mr. Borhek relative to possible changes in the schedule of charges, Mr. Albertson was asked to give information as a member of the Institute committee on the subject and spoke of some suggested revisions under consideration by the committee and said that expressions of opinion from the Chapter would be in order. After some discussion, it was voted that the Chapter recommend the adoption by the Institute of the schedule adopted by the Chapter.

WASHINGTON STATE SOCIETY

Washington State Society of Architects, at its annual meeting Thursday, December 8, at the Moore Hotel in Seattle, elected the following officers:

President: John S. Hudson, Seattle.
First vice-president: Julius A. Zittle, Spokane.
Second vice-president: Stanley A. Smith, Pullman.
Third vice-president: Robert Max Thorne, Renton.
Fourth vice-president: R. C. Stanley, Seattle.
Secretary: Isaac L. Wright, Seattle.
Treasurer: H. G. Hammond, Seattle.
Trustee: W. C. Jackson, Seattle.

The Society is working with Washington Architects Inc. in an effort to obtain the retention of Washington architects for the design of Federal buildings.

SOUTHERN CALIFORNIA CHAPTER

Officers and directors for 1933 were elected at the December meeting of Southern California Chapter on December 13 as follows: Gordon B. Kaufmann, president; Sumner M. Spaulding, vice-president; Palmer Sabin, secretary; Paul J. Duncan, treasurer; Carleton M. Winslow, director for the three-year term.

Delegates to the 1933 national convention of the Institute were elected as follows: D. C. Allison, J. E. Allison, Roland E. Coate, Robert H. Orr, William Richards and David J. Witmer; alternates: R. D. Farquhar, Sumner Hunt, S. B. Marston, Wm. Field Staunton, Paul J. Duncan and H. C. Nickerson.

The larger part of the evening was devoted to an open discussion of the fresco painting in Olvera Street, recently completed by David Alfaro Siqueiros. F. K. Ferenz, founder of the Plaza Art Center, and Arthur Millier lead the discussion.

SEATTLE ARCHITECTURAL CLUB

The Seattle Architectural Club has elected the following officers: Harry K. Wolfe, president; Richard Lytel, vice-president; G. Adolph Engstrom, secretary; and Elso B. DiLuck, treasurer. The group has selected Carl F. Gould to be its critic.

The study of projects relating to the development of Seattle has been made the chief activity of the club. At present drawings of a proposed monument to honor Seattle's pioneers and to be situated on Duwamish Head are being prepared. The structure was first studied by the members as a sketch problem—each man presenting his own individual design. The winning design, judged by Messrs. David J. Myers, R. C. Reamer and Victor Jones, is now being developed and presented by the group as a club project.

Etchings and block-prints are made on the etching press at the club-room, 4144 White-Stuart Building.

WATER COLOR SKETCHES

An interesting collection of water color sketches of European studies will be exhibited by Robert Stryker in the Architects' Exhibit rooms, Fifth and Figueroa Streets, Los Angeles, from February 15th to February 28th inclusive.

Harvard University has appointed Mr. Stryker assistant instructor in Landscape Architecture. While studying at California University he won the Harvard traveling fellowship in Landscape Architecture. It was while attending college that he made the water color sketches which are being shown in Los Angeles.

OREGON CHAPTER DECEMBER MEETING

Officers for the new year were nominated at the regular monthly meeting of Oregon Chapter, A. I. A., December 22. Twenty-three members and associates were present with James D. Mackie as guest.

Mr. Mackie addressed the meeting urging architects to make more use of the Building Material Dealers Credit Association when awarding contracts. He also declared himself satisfied with the present lien law.

Chairman Folger Johnson, of the Nominating Committee, reported the following candidates for Chapter offices:

President, Harold W. Doty; Vice-President, Fred Aandahl; Secretary, W. H. Crowell; Treasurer, Harry A. Herzog; Trustee, Herman Brookman.

These nominations are of present officers except Brookman for trustee, whose nomination is to fill the place of Jamieson Parker, whose three year term expires. The holdover trustees are Messrs. Holford and Wallwork. President Doty submitted a minority report urging that the members take advantage of the following provision in the By-Laws:

"At any time after the December meeting and not less than five days before the annual meeting, separate lists of nominations may be submitted to the Secretary of the Chapter by any five or more members whose signature must be appended to such list.

"Such lists of nominations must be complete for each and every office, including those in which they may not differ from the list submitted by the Nominating Committee."

Both reports were accepted.

Secretary Baldwin's letter of December 9th relative to those who are behind in the payment of Institute dues, was read by President Doty.

A report of the Building Laws Committee regarding proposed shingle roof ordinance was read by President Doty and accepted.

E. F. Lawrence spoke of the great need of cooperation among the branches of the building industry in order that Oregon may participate in the financing offered by the Federal Government through the Reconstruction Finance Corporation and the Home Loan Bank. He urged that the Oregon Building Congress is the logical organization to head the state's activities in this line.

Clifford E. Clausen, architect of Portland, Oregon, has applied for Associateship with the Oregon Chapter. —W. H. C.

WM. S. DINWIDDIE, BUILDER

The sudden passing of William S. Dinwiddie, prominent San Francisco builder, at his home in Berkeley, California, was a shock to the building world and an irreparable loss to the construction industry. Only a couple of days before his death it was the good fortune of the editor of this magazine to chat with Mr. Dinwiddie in his office over matters of vital interest to the architectural profession and building trades. Some of his views were published in an editorial in last month's issue. Mr. Dinwiddie was a born builder; he understood the contracting business from A to Z and architects liked to have him figure their work because they knew his estimating was dependable. When his company signed a contract it was a guarantee that the job would be done thoroughly and well. Mr. Dinwiddie was a very active man—too active in fact, for one his age—61, and the strenuous days which he lived, coupled with business worries characteristic of the times, are believed to have hastened the end.

Founder and owner of the Dinwiddie Construction Company, Mr. Dinwiddie had engaged in general building contracting throughout the Pacific Coast since the establishment of headquarters in San Francisco in 1912. Well and favorably known throughout the country, his construction interests extended the length of the Western coast.

Among some of the more important structures which he built are the Russ Building, Golden Gate Theater and Southern Pacific terminal, in San Francisco; the Central National Bank and Financial Center Buildings in Oakland; the Life Sciences Building and the new Men's Gymnasium, which is now nearly completed, at the University of California, Berkeley. He also was interested in the recent construction of the Veterans' Memorial and Opera House buildings in San Francisco.

Prior to the establishment of his own business on the Pacific Coast, eighteen years ago. Mr. Dinwiddie was associated with Thompson Starrett Company of New York.

Mr. Dinwiddie had made his home in Berkeley for nearly a score of years. He was a member of the Hillcrest Lodge of Masons, San Francisco; of the Claremont and Mt. Diablo Country Clubs and of Portland Lodge of Elks.

Mr. Dinwiddie was one of three members of the Impartial Wage Board selected to fix wages for various crafts, the work of this board being only recently completed.

Mr. Dinwiddie leaves a widow, Mrs. Helen S. Dinwiddie, and four sons, G. C. Dinwiddie, John E. Dinwiddie, architect, James Dinwiddie and Stewart Dinwiddie. He also was the father of W. S. Dinwiddie, Jr., who passed away in 1929.

ENGINEER WRITES TECHNICAL BOOK

A new method of analyzing continuous frames and beams titled, "The Analysis of Continuous Frames by the Method of Restraining Stiffnesses" has been published by W. H. Ellison and Earle Russell, Consulting Structural Engineers, 712 Pacific Building, San Francisco. In this publication the author presents a quick, accurate and straightforward method for the analysis of continuous frames or beams, giving the results directly without the use of simultaneous equations or a series of approximations. The book treats both members of uniform and variable moments of inertia; complete solutions are given for several typical problems. A very comprehensive set of 34 tables is included which give the constants for many different shaped members permitting the solution of many problems directly. In addition, the tables may be used directly in the Hardy Gross method. Copies of the 150 page book may be obtained from the publishers for the nominal fee of $2.00.

NEW LOW COST WIRING

Xtensionduct is the new name of material for an electrical wiring method announced by the National Electric Products Corporation of Pittsburgh, Pa.

Xtensionduct is a metal duct for extending existing outlets neatly, reasonably, simply, in almost an invisible manner and at very low cost of material and labor. It is designed for extension of a circuit only, and therefore, takes two No. 14 wires which are laid in the duct and the cover snapped on. The duct is finished in a neutral brown or mahogany and can be changed easily to any color by one coat of quick drying enamel.

The electrical contractor now has a low cost extension which competes with non-metallic methods that quickly became unsightly, bothersome and of a more or less frail nature.

NEW WAGE SCALE IN FORCE

Reductions in wages of building trades workers ranging from 50 cents to $2.20 per day and averaging 20 per cent for different crafts as compared with the 1932 scale made by the Impartial Wage Board of San Francisco, became effective January 1. Under the new schedule wages of bricklayers are reduced from $11.00 to $9.00 per day, plasterers from $11.00 to $8.80, painters from $9.00 to $7.00, electric workers from $9.00 to $8.00 and laborers (based on a six-day week) from $5.50 to $5.00.

The new scale is based on a five-day week and an eight-hour day and is subject to review after June 30. The new scale is published in detail on the Building Material Cost Sheet in this issue.

CONFESSIONS OF AN ENGLISH ARCHITECT

(From Architectural Design and Construction, London)

Whenever in polite society I happen to hear people speaking of architecture my senses quicken with surprise. Why is this? Whenever I overhear a conversation, say, in a train or an alehouse, and the word "architect" is mentioned my heart sickens in alarm, for I feel certain that I shall hear no good of my kind. Again, why is this? Everywhere I meet the same ignorance as to what the architect really is.

It may be that the architect, like a many-headed hydra, is too manifold in his activities to be grasped as one complete idea. Perhaps it is quite impossible to resolve such an amorphous creature into something definite in the landscape of public life. For the mass mind likes definite pictures. It likes criminals to be out-and-out criminals (preferably gangsters), it likes clergymen to wear shovel hats and speak always with inaudible droning voices (and clergymen certainly play up to this); it likes artists to have long hair and flowing ties; and not for one moment would it tolerate a barrister with a beard, even if he had the virtues of Sir John Simon, Marshall Hall, and Norman Birkett, all rolled into one. Decidedly a barrister would starve in a beard. Yet (and this is our weakness) architects appear in all manner of guises: some have beards and some have not; some are clean shaven, some are half-shaven; some are dreamy and artistic, others are hard-boiled and business-like. How can people idolize the architect when the idol looks different each time they look at him?

Something ought to be done about this. It seems that the architect must take more interest in his appearance. He must come out into the open as a public figure. For the British and American public love personalities; they feast on them. In the mass mind, what is literature compared with Bernard Shaw? What is sculpture compared with Jacob Epstein? Who cares a tinker's cuss about the film so long as Greta Garbo is in it? It is the flesh and blood which thrills, not the wretched stuff of which the art is made.

But what is the architect to do about this? He cannot so easily appear upon the stage in one guise only. His very nature has all the inherent weaknesses of duality. He has to be both a philosophic artist and a calculating business man, and no person can possibly grasp this duality without a headache. And perhaps the public is right. For it is impossible to develop to the fullest extent these two sides of our nature in one person; and I often think that in view of our difficulty between the conflicting demands of imaginative design and calculating economic structure, it would be better not to pretend to be both at the same time, but to be the perfect artist on say, Mondays, Wednesdays and Fridays, and the perfect business man on Tuesdays, Thursdays and Saturdays, and in each department thoroughly to affect the appropriate dress, disguise, and properties. But perhaps the simplest solution lies in the specialization of our work into two types of men, *i.e.*, the architect-designer and the architect-constructor. Of course, in many architectural partnerships this already works, and no doubt in one or two large businesses even a triple arrangement might be held to exist with a designer, a constructor and a business manager. But they all call themselves vaguely "architects"; and what is most curious, there is no proper official recognition for such specialization, neither in the organization of the profession nor in the methods of training in the schools. Everyone learns a little bit about design, a little bit about steelwork calculation, a little or nothing about business. We have to pick the rest up as best we may in the rough and tumble of experience—that is, when we are lucky enough to get experience.

But my suggestion for organizing ourselves into the Siamese twins of "architect-designer" and "architect-constructor" would have the merit of extending or rather reabsorbing those territories which have seceded on the one hand to the interior decorator, and on the other hand, to the civil engineer. Yet there is no reason why these latter gentlemen should not join forces with us, and although this may sound a somewhat revolutionary idea, it has already taken place abroad where the architect-designer and civil engineer belong to the same professional body.

"Archi Volta."

ARCHITECTURAL DESIGN

Educational courses of interest to men and women in the field of architecture and the fine arts have been inaugurated by the downtown night division of the University of Southern California.

The schedule of classes in architecture includes a group of five night courses in architectural design, taught by Clayton M. Baldwin and held in the school of architecture on the Southern California campus. In addition, Arthur C. Weatherhead, dean of the school, will offer a night course in the history of architecture at University College while Robert M. Fox, professor of engineering, will instruct a class in architectural engineering on the campus.

CODE OF ETHICS

A new code of ethics and practice has recently been adopted by Southern California Chapter, American Institute of Architects, and copies have been distributed to members. The draft was edited by William Richards of Los Angeles, to whom the task of putting into written form the standards and ideals of the Institute members was assigned by the executive committee of the Southern California Chapter. The text of the code follows:

I

Architect's Relation to Client

The relation of an Architect to his client is one depending on good faith. As professional adviser to his client, his advice must be absolutely disinterested. He must have no financial or personal interests, outside of his profession which would prejudice his advice or his conduct, or weaken or discredit his professional standing. He must act with entire impartiality in all matters affecting the respective rights of Client and Contractor. He must explain the conditional character of estimates made before final drawings and specifications are complete, and may not by careless statements mislead a client as to the probable cost of an undertaking. In presenting preliminary estimates of cost he must use every means at his disposal to insure that such estimates are accurate and complete and that they include contractor's profits, architect's fees and all other incidental costs. His working drawings, details and specifications must be so complete that there can be no misinterpretation as to their intent and no ambiguities which would justify an increased cost. All contracts drawn by him must fully protect all interests of both parties. After the award of a contract he must keep his client constantly informed of all changes, and may not authorize any change involving cost without his clients written approval. At the completion of the work he must render to his client a complete statement of gross cost, showing the original contract price, all additions and deductions thereto or therefrom, identified in each case with his client's form of approval, and all profits, commissions, fees and other charges contributing to the total cost of the undertaking. His charges to his client for professional services must be based on the character of such services in conformity with the recommendations of the Institute, and should be clearly stated in contract form at the time of his retention. Under no circumstances shall he receive commissions, fees, gifts, favors or any substantial service from a contractor or from any interested person other than his client.

II

Architect's Relation to Contractor

Although an Architect is employed and paid by his client and is therefore pledged to protect and subserve the legitimate interests of such client, he is nevertheless equally responsible for protecting the legitimate interests of the contractor. He must condemn workmanship and materials not in conformity with the contract documents, but he must also give every reasonable aid toward a more complete understanding of such documents, and do everything in his power to forestall a contractor's loss through misinterpretation of the requirements. Under no circumstances shall he require a contractor to make good oversights and errors in the contract documents, nor shall he demand of a contractor, without additional compensation, any work which is not provided for in such documents. He shall not incur obligations to a contractor, material manufacturer or any other similarly interested person, by receiving from him free engineering services or other emolument. He must give or confirm, in writing, all instructions to the contractor, and issue over his signature all modifications of contract, showing the agreed cost or allowance for the change. By vigilant inspection of, and close contact with, the work, he must cooperate with the contractor to obtain the best results consistent with the contract documents.

III

Architect's Relation to Other Architects

An Architect may not knowingly compete with a fellow Architect on a basis of professional charges, nor may he falsely or maliciously injure, directly or indirectly, the professional reputation, prospects or business of a fellow Architect. He may not attempt to supplant another Architect after definite steps have been taken by a client toward his employment, nor may he undertake a commission for which another has been employed until he has determined that the original relation has been fairly and properly terminated. He may introduce to a possible client the service which he is able to perform, but may not give such service in the form of sketches and the like, without compensation, until he has been definitely retained. Under no circumstances may he offer his services in competition with other architects, except in a properly regulated competition as outlined by the Institute.

IV

Architect's Responsibility to the Public

The profession of architecture calls for men of the highest integrity, business capacity, and professional ability. An Architect is intrusted with financial undertakings in which his honesty of purpose must be above suspicion. He is charged with the exercise of judicial functions as between client and contractors in which his judgment must be absolutely impartial. His motives, conduct and

ability at all times must be of a character to command general respect and confidence. He may not advertise for the purpose of self-laudatory publicity. He may not take part, or give any assistance, in obtaining advertisements or other support toward meeting the expense of any publication illustrating his work. While his contribution of time and ability to all worthy objects of public welfare is greatly commended, he may not lend his name or support to any questionable proceeding. He is responsible not only for the creation of lasting monuments to his art, but also for the public safety. In the discharge of his artistic, technical and moral responsibilities, he must at all times maintain the highest standards of his profession

ENGINEERS TO MEET IN CHICAGO

What promises to be the greatest and most important conference of engineers ever held in this country will convene in Chicago during the week of June 25-30 in connection with A Century of Progress Exposition. World's Fair officials have designated this period as "Engineering Week", and one day will be known as "Engineer's Day".

Early estimates of the probable attendance of engineers from all parts of the country, as well as from many European countries, place the figure at a minimum of 25,000 with a possibility of triple that number.

A general committee known as the Engineering Societies Committee of A Century of Progress Exposition has already been established in Chicago under the chairmanship of Harry B. Gear. Organization work is now under way and a number of sub-committees have been appointed to function on the various phases of the coming event.

The plan is for the various societies to hold individual or joint meetings of their own groups except for "Engineers' Day" when all groups will join in a giant conference.

The outstanding engineers of this and other countries will appear on the program to report the newest developments in their respective fields.

Coincident with the speaking program there will be held an exposition of power and engineering machinery and appliances in keeping with the size and importance of the gathering.

Approval of participation has already been given by 19 engineering associations, either by their national headquarters, or through their Chicago Chapters. Others will also participate. The organizations cooperating are as follows:

American Association of Engineers
American Ceramics Society
American Foundrymen's Association
American Institute of Electrical Engineers
American Institute of Mining and Metallurgical Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
American Society of Municipal Engineers
American Society of Testing Materials
American Society of Agricultural Engineers
National Council of State Boards of Engineering Examiners
Society for the Promotion of Engineering Education
Society of Industrial Engineers
Institute of Radio Engineers
Western Society of Engineers
American Institute of Architects
American Society of Heating & Ventilating Engineers
American Society of Refrigerating Engineers
National Association of Practical Refrigerating Engineers

AIR CONDITIONING CONFERENCE

Dr. Baldwin M. Woods, chairman of the committee on Air Conditioning Conference to be held February 9th and 10th, reports that good progress is being made with the program. As at present planned the meetings on February 9th will be held on the campus of the University of California, Berkeley, and those of the 10th in the Civic Auditorium, San Francisco. The morning program on the 9th will be devoted to the scientific background of air conditioning. Papers are in preparation on subjects such as the following: the basic factors in air conditioning; the physiological, psychological determination of comfort; temperature lag in dwellings, etc. The afternoon session will probably be devoted to air cooling. Economic climatic and equipment factors entering into air conditioning will receive consideration.

Luncheon and dinner meetings will be held either on the campus or nearby. At the dinner meeting it is planned to have a subject of general interest presented.

For the session of Friday the topics are: in the morning, heating systems and in the afternoon, commercial and operative problems of air conditioning. The committee on arrangements includes, in addition to Dr. Woods, the following officers of the Society: William M. Moody, Carl A. Rietz, Sam R. Dows and Albert P. Hahn.

BOOK OF 100 HOMES

Samuel Cabot, Inc. of Boston, Massachusetts, have issued a new brochure called "The Book of 100 Homes", dealing with the preservation and beautification of homes. The illustrations are exceptionally fine.

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BOOK REVIEWS

[Concluded from Page 64]

ACOUSTICS AND ARCHITECTURE — By Paul E. Savine, Ph.D. (Riverbank Laboratories). Published by McGraw-Hill Book Co., Inc., 320 West 42nd Street, New York City. Price $3.50.

A very complete and concise technical treatise on sound in buildings and the application of controlling noise. A valuable feature is the treatment of sound absorbing properties of normal interior furnishings.

In general the book is divided into two complete sections, the first dealing with the physics of sound, the second with the problem of the control of sound.

Theaters, churches, hospitals and auditoriums are fully discussed, and their insulation against undesirable noise and enhancing of their acoustics thoroughly treated. A very valuable book to all acoustical engineers and architects who must realize the importance of a scientific treatment of a great problem of the modern city.

GEO. W. KELHAM REELECTED

George W. Kelham, architect, has been re-elected president of the San Francisco Industrial Association, it was announced, following the annual meeting of the board of directors. Other officers are A. Emory Wishon, vice-president; Robert G. Hooker, Jr., secretary; George R. Gay, treasurer. Albert E. Boynton was re-elected managing director.

CREATIVE ARCHITECTURE

Rudolph Schaeffer and Wm. Glynn of San Francisco are arranging a course in "Fundamentals of Creative Architecture" for architects, interior decorators, teachers and others, starting January 30.

OAKLAND RESIDENCE

Ray F. Keefer, 770 Wesley Avenue, Oakland, has completed plans for a two story, eleven room, frame and stucco residence, to be built at 33 Bowling Drive, Oakland, for William Boyd at an approximate cost of $12,000.

MONTEREY PUBLIC BUILDING

William O. Raiguel and T. J. Ryland have been commissioned to prepare plans for a Hall of Records building at Monterey to cost $50,000. Funds are to be available from a private bequest.

THE
FOUNDATION
PROBLEMS
in
San Francisco

Are described by a committee of distinguished engineers in a valuable book just published by the

SAN FRANCISCO SECTION
AMERICAN SOCIETY
OF CIVIL ENGINEERS

¶ No architect or engineer should be without this complete and dependable analysis of the soil conditions in the San Francisco Bay Region. Several years were consumed in compiling data and preparing this report. An article by Mr. A. A. Brown, chairman of the committee that prepared the report, is published on page 55 in this issue. It gives the reader some idea of the importance of the data contained in the report.

¶ Copies of the book may be procured from the secretary-treasurer:

HAROLD B. HAMMILL
381 BUSH STREET SAN FRANCISCO

The price is
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PLENTY OF PLAY AHEAD

A vast change will take place in buildings, and "this change will be not only in style but in kind," it is declared in a report of the Committee on Industrial Relations of the American Institute of Architects, of which William Orr Ludlow is chairman.

Breaking away from the traditional forms of architecture will bring about the change in style, and the increase in leisure time will create a demand for the kind of building that leisure time will need," according to the report, predicting an era of great construction activity.

"The kind of building that will be required first will certainly not be the skyscraper or the factory; dwellings and institutional buildings, schools, hospitals, churches, and similar non-commercial buildings will probably lead the way.

"There wll be, however, a new factor in the situation that will mean great building along another line. The new factor is shorter hours of labor and longer hours of leisure. A 'five-day week' is practically an accomplished fact, and perhaps the 'four-day week' is just around the corner, for we shall keep on inventing ingenious machinery to replace hand work.

"Whether the outcome is 'five days' or 'four days', the average man and woman will have an unprecedented amount of leisure time that is going to be filled with recreation and amusement. Already the automobile has nearly revolutionized our manner of living, and it will be the means of making the greatest use of out-of-doors and the buildings that go with it. The time is not far away when the heart of our great cities will be abandoned as places for residence, amusement, and shopping, and will be given over to office buildings, centers for the distribution of freight and passengers, by rail bus and airplane.

"Amusements, shopping, and residence are already beginning the process of decentralization, as one can readily see by the establishment in suburban towns of great branches of our finest department stores, of elaborate moving picture houses and legitimate theaters; by the popularity of out-of-town apartment houses, and even in these times, when there is apparently no money for building, people have found money for building private residences in suburbs and country.

"City congestion reached its limit in 1929, and the many nostrums which simply seemed to make the disease worse are giving away to the obvious cure—taking the people away from the city and not into it. It is probable that skyscrapers will not be built for many a long day—perhaps never. We are going to turn our attention to parks, municipal and national, and to the building of swimming pools, outdoor gymnasiums, and country hotels.

"The additional leisure will also promote buildings of many sorts for indoor recreation and amusement. Theaters and movie houses will flourish, great gymnasia for football, baseball, tennis, skating and the like will be built to make outdoor sports possible indoors, for winter and at night. Our colleges, schools, hospitals and charitable institutions are even now at full capacity, and better times and more available money will bring about a great expansion of these and the new housing necessary to accommodate them.

"Wiping out the Eighteenth Amendment, without the return of the saloon, but with more general leisure, may well bring about the European way of drinking, and we shall be building beer gardens, dance pavilions, and music halls; and, of course, we shall do it in the American way—on a great scale, with very big buildings.

"We shall also build many straight highways for travel and traffic, and winding roads of scenic beauty for pleasure driving. Landscaping, planting, flowers, bridges, pavilions for rest, recreation and refreshment, public play-grounds, and golf courses, will of course accompany these in ever increasing numbers.

"What the effect of all this will be upon us as a people is another question, its answer depending in a great measure, perhaps, on whether we build along with our recreational facilities more schools, churches, libraries, and charitable institutions, and whether we rebuild our slums with decent habitations.

"But architects, engineers, city planners, landscape architects, builders, park boards, and public officials will do well to think a little in advance of the inevitable trend of affairs. They should prepare for great building activity, taking account of our rapidly changing conditions and probable mode of living, so that whatever is done shall not be done in the costly haphazard fashion of former days, but shall be planned with careful study and comprehensive scheming for the greatest economic use and the most adequate future development."

CERTIFIED WALNUT VENEERS

The American Walnut Manufacturers Association have taken a constructive step forward in the certified grading of walnut veneers in the establishment of their veneer inspection service.

Since the Association represents seventy percent of the manufacturers of walnut veneer in the United States, it will, under this new service, be able to guarantee uniform production.

Full details as to the methods of inspection and certifying grades of veneer, can be obtained on application to the Association's office at 610 South Michigan Avenue, Chicago.

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●

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By H. V. Hubbard, M. McClintock and F. B. Williams

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BUILDING HEIGHT, BULK, AND FORM

By G. B. Ford

"Mr. Ford's study is a summary of practically all the known findings on the subject."—**The Architectural Forum.**

NEIGHBORHOODS OF SMALL HOMES

By R. Whitten and T. Adams

"It is decidedly the finest piece of work on the subject that has been published."—**National Real Estate Journal.**

URBAN LAND USES

By H. Bartholomew

Just published (September, 1932). A valuable contribution to scientific zoning practice. For the purposes of this study, Mr. Bartholomew has determined the amounts of land actually in use for parks, streets, stores, houses, and other urban purposes in typical American cities where he has been employed as a city planning consultant. On the basis of his findings, he suggests the desirable amounts of land to be allotted for these purposes in cities in various population groups under 300,000.

These four reports are attractively bound in uniform volumes, fully illustrated and priced at $3.50 a copy, postpaid.

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FUNDS FOR MODERNIZATION

Possibilities for a quarter billion to a half billion dollars' worth of new jobs are opened up by the decision of the building and loan associations of the country to use the funds they borrow from the Home Loan Banks to finance modernization, said to be needed by 75 per cent of the existing homes.

The decision is reported by the United States Building and Loan League, on basis of a survey of a few days ago in which it asked building and loan executives all over the country what kind of home loans they would make with the money they can borrow as members of the new national home financing system.

The jobs to be created will be largely in the building and allied trades and will come as a result of a nation-wide extension of credit to home owners who want to improve, repair and modernize their dwellings. Campaigns to reduce unemployment by encouraging home improvement have been successful in the last year and a half wherever money was available, Ward B. Whitlock, Springfield, Ill., president of the league, points out, and now the money which the Home Loan banks will supply to the associations will provide financing facilities to start home modernizing on the great scale which is needed.

The associations may borrow twelve times as much as their stock subscription in the regional banks, which is set by the law at a minimum of 1 per cent of their home mortgages. With all the associations in the country holding eight and a half billion dollars in assets, at least a billion could be borrowed by them when all the associations have joined and when the banks have raised by bond issues $875.000,000 in addition to the initial advance of $125,000,000 from the Government, it is pointed out.

So little modernization has been possible in the last three years, the league president further pointed out, that 75 per cent is a very conservative estimate on the homes now out of date. With this in mind, State conventions of building and loan associations held in many different sections of the country during the last month reached a consensus of opinion that reloaning their Home Loan bank's borrowings for such projects would be a real contribution toward recovery. Secretaries of State leagues of building and loan associations, answering a query put out by the trade publication of the building and loan world, show the same strong leaning.

Reliable figures show that an average of 50 per cent of all money spent for such home repairs as reroofing, painting, improvement of light and ventilation facilities, the changing of architectural design and exterior arrangements of houses, install-

ing modern air cooling and insulating devices and general repairs to cellar, house and attic goes into the purses of the workmen who do the job. On this 50 per cent basis it is estimated that something like $100,000,000 could be paid out in wages almost as soon as financing is available for the $200,000,000 demand for modernization and repairs reported six months ago. Within another six months $200,000,000 to $500,000,000 could probably be paid to home repair workers, when the regional banks sell bonds on the scale anticipated.

"Seventy-seven cities of large and moderate size have put on modernizing campaigns with a subsequent reduction of the percentage of their unemployed anywhere from 30 to 50 per cent," says Mr. Whitlock. "The United States Department of Commerce has directed activities in encouragement of these enterprises. It has run against one major difficulty, lack of financing on the part of thousands of home owners who really want to improve the value of their property by modernizing. The Home Loan Bank funds supply the answer.

"Low cost of building materials makes the present the ideal time for all families to go about improving their homes in appearance and comforts, and therefore in value. Repairs which cost between $500 and $2,500 in 1928 may be made for $350 to $2,000 today.

"The gain in employment which will result from this financing goes beyond the group of workingmen who would be hired to do the actual repair and modernizing work. The manufacturer of lumber, shingles, masonry materials, plumbing fixtures, electric apparatus, paint and other requisites for making homes more comfortable and attractive will need more men to work for him to fill the orders which pile up. When men have gone back to work again they will be able to buy again, and so the cycle starts on the upgrade with the stimulus it has needed all along, the resumption of employment.

"By using the major part of their Home Loan Bank borrowings for such loans to home owners, the associations will play their part in making the new system a real contributor to recovery, but along lines of sound economics rather than along the carelessly thought out lines of direct loans to impoverished families who could not be expected to carry additional credit."

HONOLULU UNIVERSITY BUILDING

A new agriculture building will be erected this year on the campus of the University of Hawaii, according to an announcement made recently by David L. Crawford, president of the University. The building will be of reinforced concrete and hollow tile construction and will cost approximately $50,000.

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[See plate section of this issue]

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DEPRESSION HITS ULTRA MODERNISM

An architectural renaissance during the next decade, which will introduce momentous changes in thought and lead to even greater progress than in the past, is predicted by Ernest John Russell of St. Louis, president of the American Institute of Architects.

Architecture as an art has benefited immeasurably by the depression, Mr. Russell believes, in that ultra-modernism in construction has received a distinct setback and the architects have been forced to turn to more utilitarian tasks. Because of the economic crisis, he holds that the efforts of honest architectural modernists have stirred our imaginations, with the result that buildings will be inherently sincere in design and expressive of modern materials, methods and uses. The same forces, he points out, have caused the "wild enthusiasts" to analyze their work with critical exactitude.

Mr. Russell assures the nation's architects that efforts toward unification of the profession are beginning to show results and that the slow recession of the depression will provide them with more than enough to do. Recognition of private architects by the Federal government is praised by the Institute's president as an illustration of the effectiveness of concerted action in the profession to secure the assignment of public construction work.

Designing of small homes, organization of new local building congresses, economy in site planning and housing and modernization of existing structures are among the many architectural activities which Mr. Russell discusses in his report. He declares that "as individuals we have turned our attention more and more to civic activities with the result that some of our time has been pleasantly occupied and we can feel that we are taking our logical place as citizens to the benefit of our communities."

"Those who lend money for building," he says, "are convinced that buildings well designed and of good construction are more valuable than ill-considered structures. Hence there arises the desire for the certification of buildings along the lines of design, construction, suitability for use and appropriateness of location. This trend, if carried to its logical conclusion, may result in still further use for the services of the trained architect and also may end ultimately in the practice of requiring certificates of necessity before granting permits for the erection of buildings.

"Individually and collectively we can face the future with the calm assurance that there will be

plenty to do, and the deep conviction that we will be better prepared to serve our clients."

The healthy condition of modern architectural work is evidenced by the printed and oral discussions regarding it that continue unabated, Mr. Russell declares, pointing out that it is a "live subject" animated by craftsmen with original ideas and high ideals.

"Architectural modernists," he asserts, "deserve praise for their efforts to stir our imaginations and this will result in buildings that are inherently honest in their design and expressive of modern materials, methods and uses. The wild enthusiasts have had opportunity to analyze more accurately. The result will be a reinforcement of the underlying principles of the splendid works of the past which are noted for their sincerity and beauty.

"The modernists have awakened in us the realization that too great stress has been laid on blindly following precedent and that the profession has failed to recognize the revolution that has taken place in building materials and operations.

"We should analyze our problems in the spirit of the scientist. Our goal is far ahead, but there are evidences that a few strong men have grasped the fundamentals and are training themselves for work that will serve as a guide and an inspiration. By the next decade there should be a momentous change in our habits of architectural thinking and an indication of even greater progress."

The growth of the Construction League, headed by Robert D. Kohn of New York City, past president of the American Institute of Architects, is another of the outstanding developments of the year listed by Mr. Russell. Its meetings, he says, have increased the understanding of the internal problems of the construction industry and developed concerted action. Its principal activities during the past twelve months have been the organization of the National Committee for Trade Recovery, the support of national and state legislation to aid in the recovery of the building industry and general support of those cities and states engaged in the effort to secure adequate financing for self-liquidating projects.

"Its beneficent influence should increase year by year," Mr. Russell comments, "and should finally result in the recognition of construction, the second largest industry in the country, as a national unit, thus fulfilling the dreams of men who have been keen observers of the ineffectiveness of the industry in the past."

Little possibility of action on the Green bill, making mandatory the employment of private

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architects on government work, is seen by Mr. Russell, since the measure is still in the hands of the Congressional Committee. It will be introduced again at the next session of Congress on March 4, perhaps with modifications that will make it more acceptable to the incoming Administration.

Other legislative activities, in which the American Institute of Architects is aligned with many other organizations protesting against the government's competition with private business, are summarized by Mr. Russell. Chief among them is the work of Louis LaBeaume of St. Louis, chairman of the Institute's Committee on Public Works, who has appeared before Congress in behalf of the bill regarding employment of private architects on government projects and also before the Shannon House Investigating Committee, which is surveying the activities of the government in relation to private business.

"The net results of the Institute's activities in endeavoring to secure recognition of the profession by various agencies of the government," Mr. Russell observes, "are disappointing as compared to the ambitions of the profession, while on the other hand they are encouraging as they indicate the potentiality of a national organization working as a unit for the recognition it believes its due.

"In order to reinforce its efforts, particularly in national matters, the Institute has encouraged an affiliation with existing state associations of architects. This possible solidarity of the profession will be of substantial assistance to the Institute in its national legislation campaigns, while the state associations will be strengthened in their dealings with the state and municipal authorities by the Institute, in all matters that pertain to the benefit of the entire profession."

The design of small homes and the need for modernization in existing structures, Mr. Russell believes, furnish the widest national field now for the talents and industry of the architect. The president of the Institute feels that enough has not been done in these lines.

"The Institute," he concludes, "is gratified to find that local building congresses are able to report substantial progress and that new congresses are being organized.

"The design of small homes presents a problem that has not been solved satisfactorily by the architectural profession. At the last convention a committee was appointed to consider one phase of this subject, but later it was agreed that it was better to cover, if possible, the entire field even

including small farm buildings. The Institute readily acquiesced in this point of view and has hopes that the fundamental principles pertaining to this problem will be formulated in such a manner as to be satisfactory to the profession with the resultant benefits to the public.

"We have been stopped largely from creating designs for new buildings and are beginning to realize that existing structures offer possibilities undreamed of. A great majority of such structures are in need of repairs and many could be modernized to the advantage of the owners. This offers a comparatively untouched field to the architects and yet it is logical for them to till it vigorously.

"There is a growing conviction in the profession that they should serve as consultants to those who have building problems no matter how small. Architects would do well to let it be known that they may be consulted about minor matters and can give assurances that the fees for such consultation would be moderate enough to meet with approval from the clients."

SCHOOL HOUSE PLANNING

Authority to establish a rule making it mandatory to employ certified architects for the architectural work of the Division of School House Planning, State of California, is vested solely in the Department of Education, Attorney General U. S. Webb has ruled.

In answer to a query from the State Board of Architectural Examiners, Webb declared that such a rule could be made if the Department deemed it necessary for the expeditious handling of the work of the division. He said it was not within the power of the Division to establish such a requirement on its own authority.

The Attorney General also advised the board that the wording of the school code did not compel the Department of Education to employ certified architects, although the word "architect" is used in one of the sections. This term, Webb says, was not intended to refer specifically to the definition of architect given in the Architectural Act which limits its use to "those persons holding certificates from the Board of Architectural Examiners."

FRANCIS D. RUTHERFORD

Francis D. Rutherford, 50, widely known architect, native of Salt Lake City, dropped dead at Santa Monica, January 10, while dining in a cafe.

Mr. Rutherford designed buildings which now house several southern California newspapers and also some 40 structures in the Santa Monica bay district, including schools. He once won first prize in a national architectural contest.

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ANCESTORS OF THE 1929 DEPRESSION

Editorial in Roads and Streets

THE *Chicago Tribune*, in a recent editorial article, quoted from the writings of public men and from newspapers, five different paragraphs, each of which related to distressing economic conditions during the panics of 1824, 1837, 1857, 1873 and 1893. Any one of the quotations was equally applicable to present conditions, for all were extremely lugutrious.

Therefore, when we read that the present depression is "the worst ever," we should hesitate about accepting the statement unless by "ever" the writer means a period somewhat less than two generations.

The theory that "technological unemployment" is the cause of this depression is not a new explanation of depressions, although the name that it now goes by is eminently new. There has been "technological unemployment" here and there ever since Watt gave to the world an economical steam engine. Probably that sort of unemployment started when a Chinaman invented a wheelbarrow. The ancient nature of unemployment consequent upon invention is conceded by all economists, we believe, but recent revivalists of this theory of hard times argue that during the decade ending in 1929 labor-saving devices were designed and installed at a rate so unprecedented as to constitute an economic revaluation. This is not true.

The "technocrats" have been particularly active in printing data showing how rapidly workmen have been replaced by "robots" of one sort or another. It is noteworthy however, that the advocates of general curtailment of output rely upon individual instances and upon facts relating to a few industries, to prove their case. The same sort of "proof" was offered a century ago, and all

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that was wrong about it was that desire for goods and services outruns the means with which to purchase them. Let a family double its real income and how often does it fail to spend it? Double it again, and is there any difficulty in finding ways of spending it? Not if the history of the past century is any criterion, not if the families that now have an income of $10,000 a year are composed of the same stuff that goes to make families having incomes of $2,000.

Technological unemployment does occur at intervals in every class of industry but seldom in many classes simultaneously. What is more important, human wants expand as fast as real income expands; and since average real income depends upon average per capita output of goods, it is an economic error to attribute depressions to general overproduction.

During the boom of 1928 and 1929 when production was at a peak, where was there a piling up of many unconsumed goods? Even the most over-expanded of the large industries, namely farming, was not suffering from accumulated surpluses. Farm prices were said to be too low to be profitable; but when was anything else ever said by the average farmer? Taken as a whole, neither manufacturers nor merchants were overstocked when the collapse came in 1929. What collapsed? Store shelves? No. Grain bins? No. Automobile storehouses? No. What collapsed was credit. There had been a drastic shrinkage of credit on real estate projects in many cities even two years prior to the collapse of credit on Wall Street. The grand collapse of credit on securities bought on margin was immediately followed by a collapse in bank credits, which was further aggravated by the failure of more than 2,000 American banks. The calling of bank loans forced the sale of securities at still lower prices, and this in turn resulted in the calling of more loans. There

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were "vicious circles" without end, but observe that in nearly every instance they existed mainly because both ordinary business and speculation are largely conducted upon borrowed money.

Overproduction of credit has apparently been far more detrimental to prosperity than any other cause, perhaps than all other causes put together. An overproduction of any given class of goods usually rights itself because of the unprofitable prices that result. But overproduction of credit is apt to become general, and when it reaches that stage it rights itself by a general collapse of all business

STEEL HOUSES

In order to open up a new market for steel the United States Steel Corporation is preparing to issue a guidebook to house builders, according to F. T. Llewellyn, Consulting Engineer of the Corporation. In an address before the American Institute of Steel Construction. Mr. Llewellyn described the results of a survey recently made by a steel house committee. The survey embraced 56 systems of construction which were classified, according to the type of steel members used, into six groups as follows:

1. Rolled Shapes as Received from Mill.
2. Rolled Shapes Fabricated into Members.
3. Sheet or Strip Formed into

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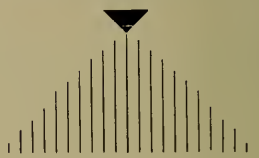

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4. Rolled Shapes, Sheet or Strip Fabricated into Panel Framing Units.
5. Sheet or Strip Fabricated into Panel Filling Units.
6. Miscellaneous and Foreign Practice.

The survey indicated that the potential demand for one and two familiy houses in the United States is the equivalent of 300,000 six-room residences per year. If framed of steel this would require 2,250,000 tons of small rolled steel shapes per year. The fabrication of this material seems better suited to the smaller rather than the larger bridge shops, and in some cases it may be done more advantageously at the site.

The survey showed that the conditions attending the construction of residences have very little in common with those fields wherein multiple production methods are applicable, such as the manufacture and marketing of automobiles. While there may be some development of the standardized type of house, it is believed that the principal demand for steel will be in connection with houses of individual design, which, however, may utilize certain standardized units.

A detailed analysis of systems of steel framing that have been successfully employed disclosed the fact that their safe and economical design differs from the conventional methods accepted in

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tier building design in three respects:

1. From the standpoint of mutual anchorage or support there is greater interdependence between the steel wall framing of a residence and the other materials which envelop the frame.
2. The scope of compression formulas now in use must be extended to greater ratios of slenderness in order to take care of temporary stud conditions during construction.
3. Greater attention to the limits of deflection in floor framing is required.

The speaker made the announcement that a booklet is now being prepared by the United States Steel Corporation which is intended for wide distribution throughout the industry. It will contain rules, tables and illustrative examples that will facilitate a proper provision for these three features in the design of steel framed houses.

Mr. Llewellyn's address was illustrated by 28 lantern slides depicting a number of successful installations of steel framing in residence construction.

PATENTED ARCHITECTURE AND BUILDINGS

The following patents were recently issued by the United States Patent Office for subjects relating to the arts of architecture and building:

MANUFACTURED BUILDING PARTS

A patent for building construction was issued to Albert F. Bemis of Newton, Mass., and assigned to the Bemis Industries Inc., of Boston. This invention relates to an improved method of building construction involving the use of parts that are manufactured in quantities and which do not require cutting or fitting on the job.

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The invention may be advantageously employed to provide any desired layout or arrangement of rooms, placing of windows and doors and permits of employment of any style of interior and exterior finish so that it may be impossible without actual measurements to determine whether or not houses of widely varying types have been constructed under the old or the new method.

* * *

APPARATUS FOR ROOF RAISING

A patent was issued to Seth M. Gooder of Chicago, Ill., for method and apparatus for raising roofs.

It is sometimes necessary to raise the roof of a garage in order to permit another story to be added.

The apparatus makes it possible to raise a roof by simple means that will carry the roof trusses near the ends, thus permitting building on top of the old wall.

* * *

MINIMUM DRESSING ROOM SPACE

A patent for building was issued to Charles E. Gillespie of Semour, Ind.

The invention relates to a building having sleeping and dressing compartments so constructed and arranged as to take up minimum space.

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vided to a minimum of ground space. A store room or the like may be converted into individual sleeping compartments for a great number of persons.

* * *

REVOLVING SCENERY FOR THEATER

A patent was issued to Arthur J. Moulton of Islip, N. Y., for theater.

This invention relates to theatrical appliances having a circular revoluble auditorium surrounded by a stationary annular stage.

The conventional theater, wherein changes of scenery and setting on the stage are accomplished by the eschelonment in depth of a series of side sliding panels disposed behind a main drop curtain is objectionable, for the reason that the same stage area is used for all scenes and settings. A change of scene can only be accomplished by dropping the curtain, thus cutting off the view of the audience from the stage, then shifting the scenery by side sliding panels and physically moving the various articles. This is not only laborious but it is time consuming and necessitates intermissions.

An object of the invention is to construct a theater wherein a series of scenes and settings may be presented to the audience without the necessity of changing scenery and settings during the performance.

* * *

BANK PROTECTIVE SYSTEM

A patent for bank protective system was issued to Percy R. Drury of Boyce, Va. The invention is designed to provide means for safeguarding banks, stores and other places of business against hold-ups. An object of the invention is the provision of means whereby the interior of a room in which a hold-up is staged may be plunged in darkness except the area occupied by the perpetrators of the hold-up, thus rendering the bank personnel invisible. Means are provided for trapping the perpetrators and for giving an alarm to the police.

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THE ARCHITECT AND ENGINEER

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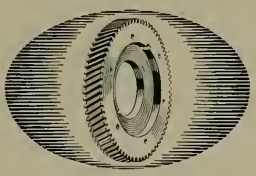

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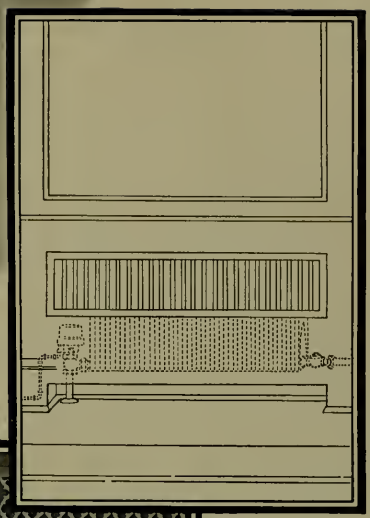
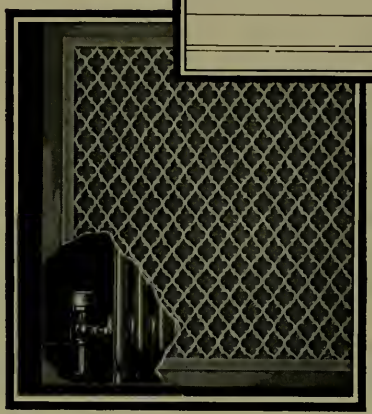


Above: A concealed radiator within the wall shown in "phantom," with Johnson heat control valve.



At left: A cabinet hides the "standing radiator" with Johnson valve on steam supply.

Radiators are being installed in less accessible locations than ever before. In schools, clubs, hospitals, homes, offices, and theaters, non-ferrous heating units are concealed within the walls. Cast-iron radiators are recessed behind grilles or hidden by cabinets. To operate the radiator valves manually, an unhandy access panel or valve with extended stem and unsightly handle must be provided. Where the Johnson System of Heat Control is installed to control radiators automatically, no such provisions are necessary.

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MANY architects have expressed to us their interest and appreciation in the publication of the late John Galen Howard's work, the first instalment of which is presented in this issue of THE ARCHITECT AND ENGINEER. The series will probably be extended over a period of several months, starting with Mr. Howard's earliest sketches in 1883 when he was 19 years old, and continuing with outstanding examples of his work up to within a short time before his death.

Mr. Howard had a systematic way of signing his drawings, even in his school days, so that the works of his own hand are easily identified. The percentage of these autographed drawings is high, especially in view of the many calls on his personal time. His every natural inclination, quite as much as his conviction of an architect's functions, inevitably kept his facile hand busy. Some of Mr. Howard's earliest "school" drawings are preserved. They were made at the Massachusetts Institute of Technology when he was twenty or twenty-one.

Mr. Howard's drawings while attending the Ecole des Beaux Arts School are of particular interest. Unfortunately some of his best delineations in Paris are not available for the reason that they were retained by the government of this school because of their excellence. However, some of the final studies for the Medailles have been preserved. They are executed in florid detail then current, but of their type, they are of exceptional merit. Some of these drawings are reproduced in this month's portfolio.

In subsequent issues, we shall present material, as far as possible, from the original drawings of Mr. Howard and of his works in New York and on the Pacific Coast.

⁂ ⁂ ⁂

BEGINNING with the March issue, and continuing alternate months, a series of four articles on City Planning and Landscape Architecture, by Ralph D. Cornell and Geo. D. Hall of the firm of Cook, Hall and Cornell, Landscape Architects and City Planners of Los Angeles, will be published. The articles will appeal to the layman as well as to the minds of the contemporary professions, the purpose being to instill a cooperative spirit. The first two articles by Mr. Cornell will deal with the landscape profession from the broader aspect of its origin and ramified developments, with particular attention given to the phases of City Planning in its many manifestations. Suitable illustrations will be pesented, including sketches and photographs of perspective and completed work throughout the state.

A third article by Geo. D. Hall will deal with the subject of Park and Recreation Areas. Mr. Hall will stress the spirit of park design more than the technical phases of the building of park plans and will describe somewhat graphically the way the wheels turn in the evolution of park projects. The fourth and final article will deal with the Planning of Grounds for Institutions, with illustrations of school grounds and campus plans from California and the Hawaiian Islands.

Mr. Cornell is a Fellow of the American Society of Landscape Architects and member of the Honorary Fraternity Phi Beta Kappa. Upon receiving his Bachelor's Degree at Pomona College, he took a three-year graduate course at the Harvard School of Landscape Architecture, where he received a degree of Master in Landscape Architecture.

Mr. Hall is also a Fellow of the American Society of Landscape Architects and has served on the Executive Committee of the Boston Society of Landscape Architects and the same organization on the Pacific Coast. He studied his profession at the Massachusetts Institute of Technology and Harvard University.

⁂ ⁂ ⁂

STRONG acid solutions used in cleaning the exteriors of buildings are said to have caused such extensive damage to facing materials, joints, window trim and glass on a number of Pacific Coast buildings, that the clay products industry has deemed it necessary to bring the matter to the attention of contractors who specialize in this class of work. The Clay Products Institute of California recommends the following receipt for cleaning terra cotta facing or trim:

"With steam and hot water remove as much dirt and grease as possible from the face of the masonry. The steam and hot water should be delivered at not less than 150 pounds pressure per square inch and at a temperature of not less than 180 degrees Fahrenheit. The steam should carry about six gallons of hot water per minute.

"Where all of the dirt cannot be removed economically by steam and hot water, then use fiber scrubbing brushes and a solution of oxalic crystals, composed of 1 volume of oxalic crystals and 8 volumes of water.

"In cases where this solution is used, all masonry and windows should be washed off immediately with steam and hot water to remove traces of the cleaning solution."

⁂ ⁂ ⁂

THE California State Board of Architectural Examiners have made public the following letter by Governor James Rolph, Jr., which states that he will do everything within his power to see that architects are given an opportunity to "bid" on state architectural work. It is understood there will be several commissions handed out shortly to those who are "in" with the administration, including State College work and a $260,000 building at Agnew State Hospital. The Governor's letter follows:

December 9, 1932

Mr. C. J. Ryland,
California State Board of Architectural Examiners
450 McAllister Street
San Francisco.

Dear Mr. Ryland:

Mr. Glen V. Slater, Assistant Director of the Department of Professional and Vocational Standards, has forwarded your letter of the 6th instant to me concerning architectural work among state colleges, etc.

I appreciate the existing situation and will do everything within my power to see that the architects of the state are afforded an opportunity of bidding upon architectural work.

With best wishes,

Very sincerely yours,
(Signed) James Rolph, Jr.
Governor of California.

⁂ ⁂ ⁂

FRANK LLOYD WRIGHT, credited with being the originator of the modernistic style of architecture in this country, recently paid San Francisco and Berkeley a visit, lecturing in the College city and speaking in San Francisco under the auspices of the Forum.

Wright's theory of architecture is that of externalized philosophy. And in view of that, he sees no future for American architecture until the architecture of society, state and economics walk hand in hand with the architecture of building.

"There can be no great art save for a great life," he said. "And there can be no great life save for a great people.

"I believe in organic architecture. I believe that buildings must rise out of the ground into the light, as people rise out of the ground into light."

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This Issue

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Warren Cheney, Sculptor

Frontispiece LOWER GARDEN OF DODD HOUSE, HOLLYWOOD
William J. Dodd, Architect; Charles Gibbs Adams, Landscape Architect

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Next Month

Elmer Grey, F.A.I.A., will continue his interesting series of articles on "The Vicissitudes of a Young Architect.

Ralph D. Cornell, Landscape Architect, presents the first of a series of four articles prepared especially for this magazine on City Planning, Park Development and Landscape Architecture.

The second Portfolio of Sketches and Delineations by the late John Galen Howard, F.A.I.A., will include some of his Boise Arts work in Paris.

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LOWER GARDEN OF DODD HOUSE, HOLLYWOOD
WILLIAM J. DODD, ARCHITECT;
CHARLES GIBBS ADAMS, LANDSCAPE ARCHITECT

It is now the guest house of Cecil B. De Mille.
This villa was formerly the home of Charley Chaplin.

THE
ARCHITECT
AND ENGINEER

FEBRUARY 1933
VOLUME 112
NUMBER TWO

A TUSCAN HILL VILLAGE AND HOW IT GREW

by
CHARLES GIBBS ADAMS
Landscape Architect

THIS is a story of hanging gardens, and of an architect who could not keep for a home any house he built therein, with that dream in his heart. The public would not let him have it.

Laughlin Park Hill, steep and high, towers over Hollywood. Once, in more Arcadian days, its crown was orcharded with old silvered Mission olive trees, many of which still linger to shelter the gardens that have grown up there since. The summit overlooks the cinema capital, and Los Angeles beyond, as Fiesole looks down on Florence.

William J. Dodd, A. I. A., designed and built a Tuscan villa on this picturesque hilltop for his home, and made it gay with outdoor frescoes and many perfumed flowers.

Then Charley Chaplin came along, at the height of his glory. The distinguished comedian fell in love with the house, and coaxed a lease from its builder. Next, Cecil B. De Mille, whose embowered estate adjoined it, set his heart upon the place, demanded it for his own at any price, and won. It is now his guest house.

* * *

The architect walked a few paces down the ridge to the next building site, and built another villa around old gates and balconies and marbles he had brought from Florence. He embowered it with Italian cypresses, Greek myrtles, gaudy Bougainvilleas and tropic trumpet vines, and cooled its

THE LAMB HOUSE, HOLLYWOOD, CALIFORNIA
William J. Dodd, Architect
Chas. G. Adams, Landscape Architect

garden with a Villa D'Este cascade in a viale of dark cypresses.

But Mr. Dodd could not hold that house either. It was coaxed away from him and is now the home of Frank H. Lamb.

The architect, still embued with enthusiasm and courage, walked around the curve of the road to the next building site and built one more Italian house to match the others in architectural sentiment. Perhaps he could turn a deaf ear to pleas and hold onto this less pretentious home. This time he had the young architect, Wesley Eager, plan the house. But no sooner had his landscape architect completed the picture with a hillside garden of many levels, held up with walls of rough brown rock from the Hollywood mountains, and planted in magnolias and camellias, scarlet aloes and ivory yuccas, night-scented jassmine and poet's jassmine, guavas, oranges and avocadoes, than it went the way of those other houses. Mr. and Mrs. Joseph L. Durkin craved it for their home—and won it away from the builder.

THE LAMB HOUSE, HOLLYWOOD, CALIFORNIA

William J. Dodd, Architect; Charles G. Adams, Landscape Architect

Italian Cypresses against house . . . Violet Bougainvillea, from South America, over gate

There was one site left along the curved hilltop road for the final home of the architect in what had thus step by step become

a Tuscan hill village,—a lot so steep that a structure of two floors at the entrance must be four stories high at the rear. The viletta Mr. Dodd and Mr. Eager built by the roadside looks across the way to an uprising precipice beautified by a wall laced apricot-colored oleanders, oranges, pomegranates and figs. At its base is a tea pergola of eucalyptus logs, roofed with that queen of climbing roses, the semi-tropic Belle of Portugal.

The last house and garden finished, the

THE DURKIN HOUSE, HOLLYWOOD, CALIFORNIA

Wesley Eager, Architect; Charles G. Adams, Landscape Architect

Pepper tree on left . . . Acacia Latifolia on right . . . Mahogany trumpet vine on house

with flowering vines and inset with a fountain of many-colored tiles from Spain; at the rear it looks down over its steep little garden and out upon Cahuenga Valley, holding Hollywood in its lap. The garden, under a group of towering old Eucalypti that happened there long ago, is fragrant with Mexican tuberoses, Spanish brooms, architect sailed away to Florence to pick up marble for his terraces. Antonio Moreno leased the home; but only for the brief period that Mr. Dodd was abroad. Later Moreno decided that he, too, must spend more of his years in the Tuscan village, so he built himself a villa there on the rim of the world.

THE DURKIN HOUSE, HOLLYWOOD, CALIFORNIA
WESLEY EAGER, ARCHITECT;
CHARLES GIBBS ADAMS, LANDSCAPE ARCHITECT

GARDEN, THE DURKIN HOUSE, HOLLYWOOD, CALIFORNIA

CHARLES GIBBS ADAMS, LANDSCAPE ARCHITECT

Old pepper trees overhanging . . . Yucca Pendula along stairway . . .
Southern Jassmine on upper wall

THE DURKIN HOUSE, HOLLYWOOD, CALIFORNIA
WESLEY EAGER, ARCHITECT; CHAS. GIBBS ADAMS, LANDSCAPE ARCHITECT

ANOTHER VIEW OF THE ORIGINAL DODD HOUSE, HOLLYWOOD

WILLIAM J. DODD, ARCHITECT;
CHARLES GIBBS ADAMS, LANDSCAPE ARCHITECT

TEA PERGOLA AT FOOT OF DODD HOUSE, HOLLYWOOD
Charles Gibbs Adams, Landscape Architect
Clothed with Belle of Portugal rose vines . . . flanked with Guatemelan avocado trees

BETTER HOUSING

by
V. GILMORE IDEN

THREE years of depression have left most business men with minds devoid of imagination and easy prey to all sorts of hallucinations. This is a period when "technocracy" and other "isms" flourish best.

The fairy tale that the steel industry is planning to go into the business of house building is but typical of the day. Let me hasten to reassure you that, so far as my knowledge goes, and I believe I am in a position to know a little about the subject, the steel industry is not prepared and is not contemplating anything of the kind.

The steel mills roll various structural shapes, many light shapes, which are admirably adapted to the use of the house builder. But the mills have been rolling these for years, they intend to continue rolling them and selling them to anyone who has the desire to build anything.

The steel industry saw the automobile develop, but it did not elect to invest any of its capital or its resources in the automobile industry. The steel industry saw the railroads develop, but it did not elect to invest any of its capital or its resources in railroading.

In the field of construction the picture is somewhat different. Some of the larger steel mills do own and operate fabricating plants and do engage in fabricating and erecting structural steel in buildings and bridges. But those mill-owned units are operated in competition with some six hundred independent fabricating plants throughout the country.

These fabricating plants have been equipped to handle heavy work chiefly. The big punches, shearing machines, and similar equipment could not profitably be put to work on the light structural material that would go into house building. Small independent fabricating shops, however, are interested and for many years they or some inventive mind connected with them have experimented with building residences of steel.

House building is quite different from the building of a bridge or a tier building, however. In the first place, house building is so closely allied with real estate that we doubt if it could be successfully separated from it. The realtor, the speculative builder, the supply dealer, and that vast organization which has grown up to supply new houses in the United States, represents an evolution that not even the steel industry could disrupt, even should it want to. We who wish to see steel introduced into houses, therefore, recognize the necessity of developing something that will easily fit into the existing order of things.

In the last decade, however, the country has been overridden by the "jerry" builder. They have covered their poor construction with a veneer of good looks, which may have deceived the housewife but it represents a very poor risk to the financer.

*An address delivered before the New Jersey Mason Material Dealers Association January 12, 1933.

Most American homes are fire traps. It is claimed that only three percent of the habitations in New York City are fireproof. Strange, indeed it is, that man will go to his work in a fireproof train, conduct his business in a fireproof office, dine in a fireproof hotel, but leave his family in an inflammable home.

Realtors well know that in a new house deterioration starts during the first year. For that reason a purchaser is usually required to pay off the second mortgage by the end of the first three years, and the first mortgage after the first ten years. They know that the repair bills after that will be so large that the owner will hardly have enough left for taxes, not to say anything of the principal.

The "jerry" builder is to a large extent to blame for the viewpoint now common on the quality of construction and the amount of maintenance required. He has shopped the dealers out of any possible profit for them as well as himself. He has no interest whatever in the future of the home he has built; he has no permanent investment and is, therefore, footloose.

Quality of materials selected, care with which the materials are arranged, and quality of workmanship, are the factors that make for quality in the structure. The tendency toward poor quality is further increased by the fact that when loans can be obtained there is quite commonly offered three times as many dollars as are required and from sources that have no great interest in the future value. Until the building of houses is returned to individuals or companies that have local responsibility as well as investment, future value of them will be low.

A fireproof, shrinkproof and vermin proof house can be built of steel. It has been proved that such a house will cost but little more than a house of wood-frame construction. In the most expensive of designs the steel framing has increased the cost of the house but ten per cent, and in one instance I know the increase in cost was but twenty-five dollars in a house that sold for twenty thousand dollars.

For about ten years the American Institute of Steel Construction has been collecting data on the best method of building houses with steel. We have had our attention called to some sixty different methods, many of them very irrational, some very good, indeed, and others promising great improvements in the art of house building. Our Institute has not attempted to promote the building of houses with steel, but we have endeavored to act as a sort of clearing house of information on the subject.

Last May we held a forum on house construction at which the doors were thrown open to all designers in any of the different building materials. We were merely desirous of finding out what has actually been accomplished in the improvement of materials or methods in house construction.

Although not entirely discarded, the idea of building homes entirely of steel played a rather inconspicuous part in the discussions. Few of the speakers appearing on the program thought sufficiently well of the proposal to mention it, although the data sent in by one company—De Cel Corporation of Chicago—indicated that an effort is being made to build cheap houses with steel sheets welded to a steel frame. On the other hand it was pretty generally recognized that many, if not all construction materials, are utilized in the building of modern houses and that it is essential to find new methods of utilizing these if it is hoped to reduce the cost of housing and provide a better home for persons in the lower income brackets.

The greatest expense is in labor at the site. Reduce the amount of labor and the time of erection, and the cost of housing can be greatly reduced. Efforts have been made to accomplish this result by resorting to one of three methods. First, change the design and incorporate improved engineering principles in the construction. Second, manufacture standard units which can be incorporated in walls, ceilings and floors. Third, manufacture the complete rooms or even the complete house and ship to the site.

Very little evidence has been developed to support the idea that the factoried house

is commercially practical. Many proposals have been drawn up and discussed speculatively. Only the Steel Frame House Company of Pittsburgh actually attempted to manufacture a complete cottage (the Brisbane cottage). No evidence has been offered to show that such an experiment was financially or engineeringly successful. Other companies are reputed to be experimenting with the idea but none of them have yet developed it to the point where factoried cottages or houses are actually offered on the market.

Mass production has been stressed and it is insisted that houses could be produced in the way we now manufacture automobiles. No evidence has been offered, however, to show, even though houses were factoried on the mass production principle, that it would be practical to market the output. There has been no evidence that a distribution system similar to that used for automobiles, could be adopted to factoried houses. It would require a denser sale than is yet available for small houses to warrant the creation of local sales agencies. Not only is the commercial consideration problematical but the engineering is not entirely satisfactory. What may be saved in labor on the house in the factory may be spent in the cost of hauling and lifting the completed structure to its foundations. These are some of the obstacles that must first be overcome.

According to the evidence offered, great savings might be made, however, by the factory manufacture of standard units for walls and floors. The Japanese idea of using screens for walls and partitions might well be adapted to modern material and modern American factory methods. Large floor units, stair units and wall slabs have been utilized and demonstrated as entirely feasible. These have been made of various kinds of materials, such as cement, gypsum, steel, wood, patented wall boards. They have been utilized in buildings intended for various purposes, from the temporary shed to the expensive house.

Efforts have been made and are still being made to produce a house with steel framing, somewhat after the accepted fashion of wood framing, which will vie in cost with houses of like class. The first efforts were to substitute light rolled beams for floors and roof, with light channels or angles for uprights. Detailing and fabrication resulted in excessive costs. Some of these houses resulted in cost as much as five cents a pound for the erected steel. The Steel Frame House Company and others attempted to fabricate standard light sections with holes punched at standard distances so that they could be connected anywhere. This method greatly reduced the cost of the framing but did not bring it down to a really commercial basis.

With the introduction of welding, builders have been attempting to eliminate detailing and fabrication in the shop as much as possible. But welding at the site is still expensive. When mill lengths are used and the joints welded in the field it has been possible to bring the cost down to approximately the cost of a wood frame. This was accomplished by Steelbilt Homes, Inc., of Cleveland, Ohio. Other companies, such as the Housing Corporation of Waverly, Massachusetts, have utilized steel studs at major points to protect the house against shrinkage but spaced these out with wood studs, these intermediate studs being used as stiffeners for the curtain wall and not as a construction support.

More recently an effort has been made to utilize framed units for wall construction. It would seem that these have been inspired by the success of steel casements. These unit frames are sometimes made of standard rolled sections and sometimes of formed sheets, or a combination of the two.

One of the most noteworthy of the all-steel houses is the one that was sponsored by the American Rolling Mill Company and that was completed last summer at Solon, ten miles from Cleveland, Ohio. This was designed by the Insulated Steel Company, Inc., which now plans to build an improved model at the Chicago World's Fair. This house was designed for construction by mass production methods with factory-assembled units of pressed sheet steel for walls and floors, all-welded, "frameless." The Solon house contained

eight rooms, having an exterior finish of porcelain enamel shingles. Its cost might be greatly reduced by eliminating the enameled exterior.

This house was built to demonstrate the adaptability of sheet metal to low cost home construction, and was not intended to produce a standardized type of dwelling. Rather, the demonstration aimed to perfect a method of construction which could be used to reproduce any type of architecture for the individual home, thus overcoming one of the strongest objections to the factory-produced house.

Need for a structural frame was eliminated by constructing the walls of pressed steel sheets having box-like corrugations, or channels, which stiffen the sheets sufficiently to carry floor and roof loads. Floors were made self-supporting by a cellular box-like construction employing Z sheets. The house required 17 tons of steel, which was distributed about 6 pounds per square foot in the floors, and 2.9 pounds per square foot in the walls. Both floor and wall units were sheared to length at the mill and assembled and welded in sections at the shop prior to delivery to the job.

This experiment very naturally raises the question of whether it is possible to introduce factory methods into house construction. According to popular report several important companies have been considering the problem in that light.

In Chicago a company has been formed under the name of General Houses, Inc., led by the architect, Howard T. Fischer. Its purpose is to sell complete houses and it is said to be contracting with dealers for territory at this time. The construction, according to report, will combine various materials in its make-up and the companies selected to make these materials are leaders in their field. The floors are made of steel plate supported on I-beams. The walls in one model consist of steel plates combined with angle steel frames into sections which may contain doors or windows as required. The wall steel acts as the support for the floors and roof. The inside of the wall section will contain insulation and an interior finish. A bill of material for this building should consist of the number of wall, floor and roof sections. This can be assembled by bolting in the field so that complete enclosure of the structure will be accomplished in a very few days. Floor finishes, refrigeration, heating and ventilating are considered part of the problem. The complete houses can be sold from a catalogue.

These programs are all doubtless very interesting but as practical builders you probably wish evidence that is more real. Some of these plans for "factorying" the house, or parts of the house, may yet be developed. The ingenuity of man is something no one can deny and I would not desire to prophesy that the task is impossible.

On the other hand a sufficient number of steel-framed houses have been erected during the past ten years to afford some definite idea of what we can accomplish. While steel is the most perfect building material ever provided man, it does cost more than much of the cheap stuff heretofore put into houses. Its extra cost is offset by the fact that it is shrinkproof, that it will not harbor vermin or termites. The house is fireproof.

We must be economical in its use, however, and not waste the material. The public should, consequently, be interested in the fact that the United States Steel Corporation is planning to issue shortly a handbook for house builders. It will be the first compendium ever offered by the steel industry to the field. And some interesting innovations, based upon experience already observed in houses built of steel, will be proposed. What these may be, I am not at liberty now to say, but I can quote you from Fred T. Llewellyn, Consulting Engineer of the United States Steel Corporation.

Discussing the problem recently, Mr. Llewellyn said:

"In tier building construction your steel frame is self sufficient, and should be so, both during construction and after completion. If you follow the same rule in residence construction and make your steel frame self sufficient during erection and after completion, it will weigh several times as much as it need.

"All of the structural handbooks give a

limit for the ratio of slenderness of compression members, commonly expressed as L/R—Length over Radius. The handbooks limit that ratio to 120 for important members and from 160 to 200, at the outside, for minor members. Even in light structures such as transmission towers they do not go beyond 250. In residence construction frames are being put up successfully with a ratio of slenderness during construction that extends to nearly 300. I have knowledge of a very good construction with a ratio of 293. By no means at the same loads as for lower ratios, but the handbooks give no value whatever to such members.

"Pretty nearly all the steel frames that we have examined have studs that are from three to four inches in depth and from one and a quarter to two inches in width. Their clear height is in the neighborhood of nine to ten feet. Such a member, whether it be a rolled section, or made of sheet metal, or any other construction, will have considerable stiffness transversely of the wall, namely about its major axis in the direction of its depth. It will stiffen the wall, and it also has considerable strength to carry the superimposed load that comes from the first floor and any other superimposed material or loads. In the other direction, however, in the plane of the wall, it has very little strength alone, that is, during construction. But fortunately it does not have to carry very much during construction. It has got to carry the weight of the steel above, it has got to carry a little staging, and it should allow for a chance load of probably between one-half and one ton.

"After completion it has to carry much more than that at which it was figured as an independent member, but it will not figure to carry a higher load as structural engineers are accustomed to figure. For instance, the architect specifies that the masonry shall be anchored to the steel studs every so often. What he means is that the studs shall be anchored to the masonry every so often, and this makes the anchorage question a much more important one to the structural engineer than it might otherwise appear to be. With an anchorage every 18, 24, 48 inches, according to your design, you have a combined strength in your wall, whether it be masonry, brick, concrete, or one of the composition materials that are becoming so popular. All such materials stiffen the stud sidewise. In reinforced concrete, it is true the concrete and the steel act together, but in reinforced concrete the steel reinforces the concrete against tension. In the construction I am referring to, the steel must be reinforced by the enveloping material against buckling under compression.

"I conclude that the proper design of steel work in residences depends largely on materials other than steel. It depends upon the assistance of the enveloping materials."

In practically all modern houses some steel is introduced. It may be no more than a beam to support the floor over the basement. It may be a column or two to support the bathroom and the vital weights in the house. Many floors have been built of Jones & Laughlin Junior Beams, covered with a 2-½ inch slab of concrete. They provide excellent protection against fire when used in the first floors of houses. During the past six years something over 3,000 such houses, scattered over the United States, have been built.

In the better grade of residences we confidently expect to see nothing but steel framing used in the future. As we are able to demonstrate lower costs and better construction, the introduction of this method of building will be universal.

Before closing, however, I wish to caution you against exuberant expectations. Steel is not a material that can be successfully handled by the inexperienced. The occasional beam or column may be stocked by the regular supply yards and erected by any good house builder. But to build a complete frame, to erect an integrated unit, requires the services of persons experienced in steel construction.

We expect, therefore, that, for the present at least, the numerous small steel fabricating shops, which are now found in all towns and cities of any size, can best advise you and work with you in the development of better homes in America.

BRONZE PORTRAIT OF GUNNAR JOHANSEN
WARREN CHENEY, SCULPTOR

WHAT IS THE MODERN SCULPTOR TRYING TO DO?

by
WARREN CHENEY *

WHY all this distortion of the human figure? Why all this use of angles and square volumes? Does the modern sculptor think he can improve the beauty of the human body? What is he trying to do?

These questions, which occur so often to the spectator, when voiced, usually make the sculptor so angry or so disgusted that he walks away without bothering to answer. For to answer them seems both unnecessary and beside the point, in face of the seeming lack of understanding on the part of the spectator. Yet our critic, whose major interest is not sculpture, is entitled to ask these questions and he is entitled to a civil reply.

The reason these interrogations occur is because the spectator's training in appreciation of the fine arts has been wrong. This seems a broad statement, but the fact is that even today, with modernism on all sides, our educational institutions still persist in training appreciation by superficial analysis of a very few examples of art works. The student likes what his teacher likes, dislikes what his teacher dislikes, but when confronted with art he has not been told to like, he is lost. He hardly knows where to begin. The new model, unless it possesses great similarity to examples he has been taught to admire, looks queer and unintelligible. Our spectator is bewildered because he has been taught no aesthetic basis; no aesthetic principles which he could apply to all art forms. Not only does he lack aesthetic principles, but he has been taught that art cannot be defined and that all art theory is generally a waste of time.

Yet as far back as the Fifteenth Century Leonardo da Vinci wrote that all great art has solid theory behind it. And if one accepts that master's word, it is easily seen that the full appreciation of great art comes only with understanding of the theory on which it is built. The spectator must become convinced of this point if he wishes ever to get beyond the stage where only simple and obvious beauty reaches him.

The spectators' idea of sculpture formed on a college education and visits to the major galleries of Europe and America, is usually something like this: "The greatest sculptors of all time were the

"OPUS 5"—Carved direct in Alaska Marble
Warren Cheney, Sculptor

*Mr. Cheney is lecturer in Modern Art and Instructor in Sculpture at Mills College, California. He is a son of Charles H. Cheney, City Planner and Landscape Architect.

late Fifth and early Fourth century Greeks, and the symbol for both perfection of architecture and sculpture is the Parthenon. Second only to these Greeks are the great sculptors of the Renaissance—Donatello, Verrochio, Michelangelo, Bernini. Since their time sculpture has been decadent, with all sculptors trying to emulate or outdo the Greeks or the Renaissance Italians."

Now an analysis of these "criterions" of sculpture shows general adherence to the human figure in proportions and in form, the only variation coming in surface treatment; the Greeks generally simplifying anatomical elements, the Renaissance Italians generally anatomizing to the full, with Michelangelo exemplifying the supreme anatomist. Literature has built up the reputation of these sculptors so that to criticize them is heresy, and today the symbol for manly beauty is the sculpture of the "Greek God".

Here is the first and most obvious misconception: Greek sculpture the pattern for manly beauty—the inference being that beauty in sculpture is the idealization of the beauty in the human form. The function of the true sculptor, however, ancient or modern, is not to copy form, but to create form. The sculptor is no more than a craftsman if he but copies a human figure, and in as far as those Greeks and the Renaissance Italians copied a model, just to that extent are they craftsmen, not sculptors. The craftsman's reproduction in stone or marble of a beautiful body will unquestionably reflect much of the beauty of the living model, but this reproduction is not art. Beauty and art are not synonymous. Art is beauty created by man. Beauty in nature is only the element from which the artist starts in the creation of an object of new beauty that has a spirit of its own not found in nature.

"MOTHER AND CHILD"—Carved direct in Indiana Limestone
Warren Cheney, Sculptor

To have a spirit of its own means, in sculpture, not merely the selection of an expressive pose but in addition, the creation of form which gives the sculpture an added spirit—an intensification of the feeling experienced in nature. The result is bound to be a figure which looks like no human form one ever saw. Proportions and forms are changed, conditioned — what fashionable critics would call deforming.

Until the spectator acquires considerable familiarity with the possibilities and limits of sculptural media, the spirit of the sculpture remains the one element understandable by anyone. The appreciation of the organization of volumes, the sense of the brittle and intractable nature of stone contrasted with the wiry plasticity of metal — these elements in the development of taste for sculpture come slowly. Thus, it is the spirit of the sculpture, the expressiveness of the sculpture, which the spectator should look for. He should put out of mind any cannons of beauty or standards of human perfection and give himself over entirely to contemplation of the expressive form which makes the sculpture live.

The "Mother and Child", conceived architecturally, means to express the sincere hope of a suppliant mother that no harm may come to her clinging child. The

positive space formed by the child and the right arm of the mother is balanced by the negative space surrounding the left arm —the latter expressing the emptiness which would fill the mother's heart should her child be lost. The piece is purposely kept stony and sculptural, eliminating the sentimentality which so often characterizes this subject.

"Opus 5" is an interpretation of the quiet lyricism of repose, dormant life about to be come active, expressed through the very whiteness of the marble, the contrast in textures, and principally through the rhythm of the related volumes.

In sharp contrast is a bronze "Torso", which has the appearance of nature closely followed yet underneath the surface-anatomy is discovered a conditioning of proportions and an organization of volumes calculated to give the piece a feeling of upflowing spirit. Due to lack of space "Torso" is not illustrated in this article.

In the twice life-size bronze head of "Gunnar Johansen" the personality of the musician is rendered in a frankly romantic manner. The intention is to interpret the greatness of the pianist through the very size of the head, and to create an expression of concentration and sensitivity felt in the young Dane when he is at the pianoforte.

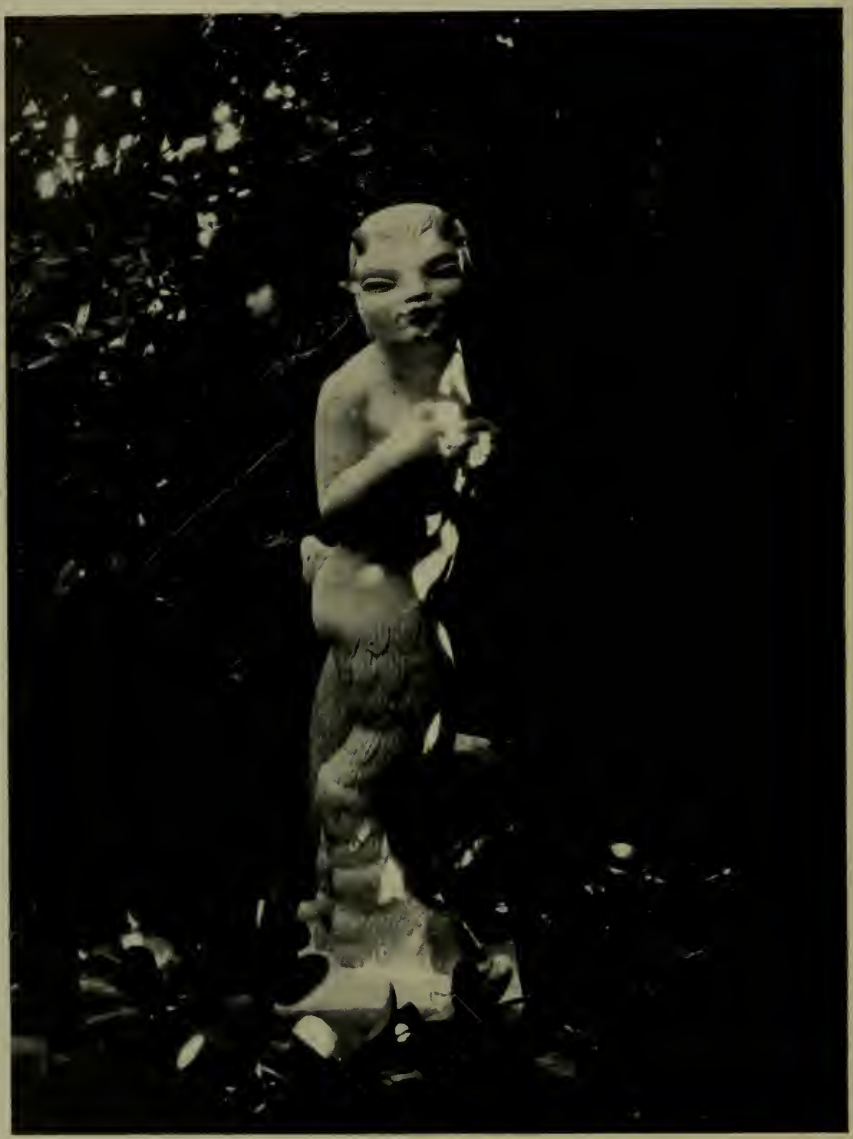
"Pan", god of the woods, is half human and half goat. A wild untamed creature never seen in a static pose, his little smile bespeaking his mischievious nature, his eyes large and wise with an ageless youth, he interprets a playful mood suited to garden sculpture.

"Opus 6": great tragedy—as that of a mother who has lost her child—interpreted through heavy masses of stone. Here is woman weighted by a tremendous grief, her profound despair expressed by the droop of the head, the slump of the torso. Yet by her very nature she is forced to go on, as felt in the dynamic forward movement of the legs. The heaviness of proportions, the elimination of any decorative elements, the opposition of the volume movements, are a conscious effort to express the intensity and depth of utter heartbreak—not of one woman, but of womankind.

The relief on the front cover is "Electrical Power" expressed through human forms made smooth and flowing with mechanical precision to compare with the machine forms. The tendency of force to act in straight lines is interpreted by the direct uninterrupted movement of the planes. Color is used here, reviving the practice followed by the ancient Greeks and Egyptians, but instead of being suggestive of realistic coloring the colors are chosen purely to intensify the expression of cold electrical power.

"OPUS 6"—Warren Cheney Sculptor
(For detailed description see text)

Editor's Note: "Mother and Child" and "Opus 6" were recently at the City of Paris galleries with the first annual exhibition of a group of progressive California painters and sculptors. . . . . "Pan" graces the Gothic Court of the Legion of Honor in San Francisco as the fountain piece. . . The portrait of "Gunnar Johansen" was on view during last October at the Beaux Arts Gallerie. The relief, "Electrical Power" on the cover has just been completed and was to have been seen with the Progressive Exhibit but due to its largeness, it was found out of proportion with the intimate scale of the City of Paris Galleries.



"PAN"—CARVED DIRECT IN CALIFORNIA TUFA STONE
WARREN CHENEY, SCULPTOR

EFFECT OF RETRENCHMENT ON HOUSING AND OFFICE SPACE

WITH the cumulative effects of the past three years of depression, there has developed a state of mind concerning building which has been far-reaching in its unsettling effect. Talk to any contractor, builder, investor, professional man, or layman, and you will receive a chorus to the effect that new buildings will not appear for a long, long time. There are too many homes hanging over the market. There is too much office space available, even in the finest buildings.

The natural sequel to such an attitude is that business in general—so much of which depends on construction—is destined for a very long wait before it can expect any sort of a pick-up. This "licked before you start" reasoning is bound to deepen the gloom in which we find ourselves; furthermore, it militates against that basic, more sober type of reasoning which is not only so conspicuous by its absence, but is so necessary for the laying of that foundation upon which we hope to erect a stable regime.

By way of mental exercise and relaxation, let us take a deep breath and see what kind of a picture presents itself in response to our efforts.

In the outlying districts of our cities there are many "For Sale" and "For Rent" signs—a definite indication that there are more than enough houses to go around. Yet, real estate men tell us that the distress house situation has cleared up. Why then are so many vacant? The answer is largely to be found in the recent so-called "doubling-up" movement of families. The young man with a family, living in a nice home, gets a salary cut. A few months later comes another one. He becomes not only discouraged, but (and this is important) he gets scared. In many cases this young man can still scrape by, but with the constant fear of another slash in his salary, or possibly the final loss of his job, he takes his wife to one side to talk the situation over. The resultant feeling is "If we could rent or sell this house, we could live with mother till this whole business blows over." Two weeks later finds the young man living with his family, and his wife and junior are staying at hers. One more sign is added to the growing list.

Is this situation a permanent one? It is decidedly not. Two families never could lead a happy existence under one roof, and they are not going to begin now. Just as soon as our young couple can see a ray of hope in general conditions, they are going right back to their own home.

We said that our young couple had a child. This brings in another important factor, namely our ever-increasing population. Couple with this the fact that there is a never-ending rate of home obsolescence, and we find yet another strong factor for our picture.

Now let us look at the cities. With somewhat the same mental process which motivated our young couple, we find many an office manager receiving instructions to cut down. In many cases offices are discontinued, and all clerical work is taken to the factory—for we suppose there is plenty of space available there. In similar instances, the amount of office space is reduced. Frequently, those having offices in the better buildings, give up their high rent quarters and move to second- or third-rate structures.

Our answer to this situation is along the same lines as in the case of our homes. Just as soon as that ray of hope appears on the horizon there is going to be a real shifting of offices. It will not be long before the comparatively small amount of modern office space available will be all taken up. The second- and third-rate buildings will no longer appear so attractive to prospective tenants. The factories will soon manifest their eagerness to reopen city offices, and the movement will be well under way.

Already we can find numerous instances where old buildings have been or are being torn down. It is cheaper to pay taxes on the land when no building is standing on it. Meanwhile, that land pays well as parking space for automobiles. And right there we have a real potential building program which in effect will substitute modern rentable offices for obsolete, undesirable and unhealthy loft space.

Well, our picture doesn't look so terribly bad after all. And in painting it we have learned a few things. Above all we have learned that we need not become too discouraged. For those of us who have real merchandise and service to sell, it will mean some good hard plugging, but the writer cannot recall a time when that ever did anyone any harm.—*Philip K. Brown, Bon-Air Radiator Corporation.*

Courtesy Camera Craft

MEDAL PRINT, "LIVING BRONZE"
Alexander Leventon

JOHN GALEN HOWARD, F.A.I.A.

The Graphic Side of a Great Architect's Accomplishments

First of a Series of Portfolios of Sketches and Delineations by the late John Galen Howard, former head of the School of Architecture, University of California, Berkeley. . . . . .

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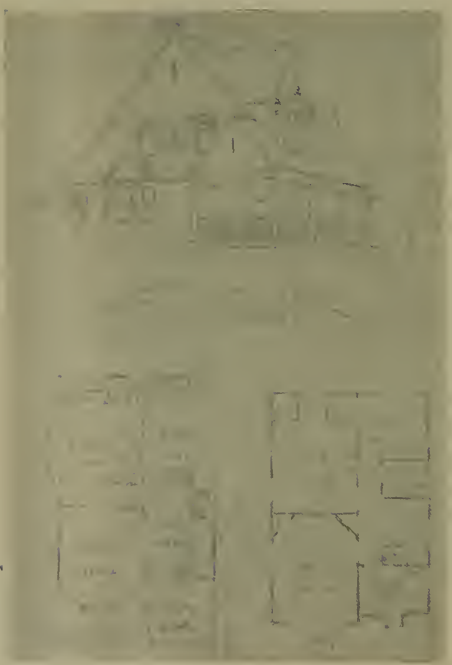
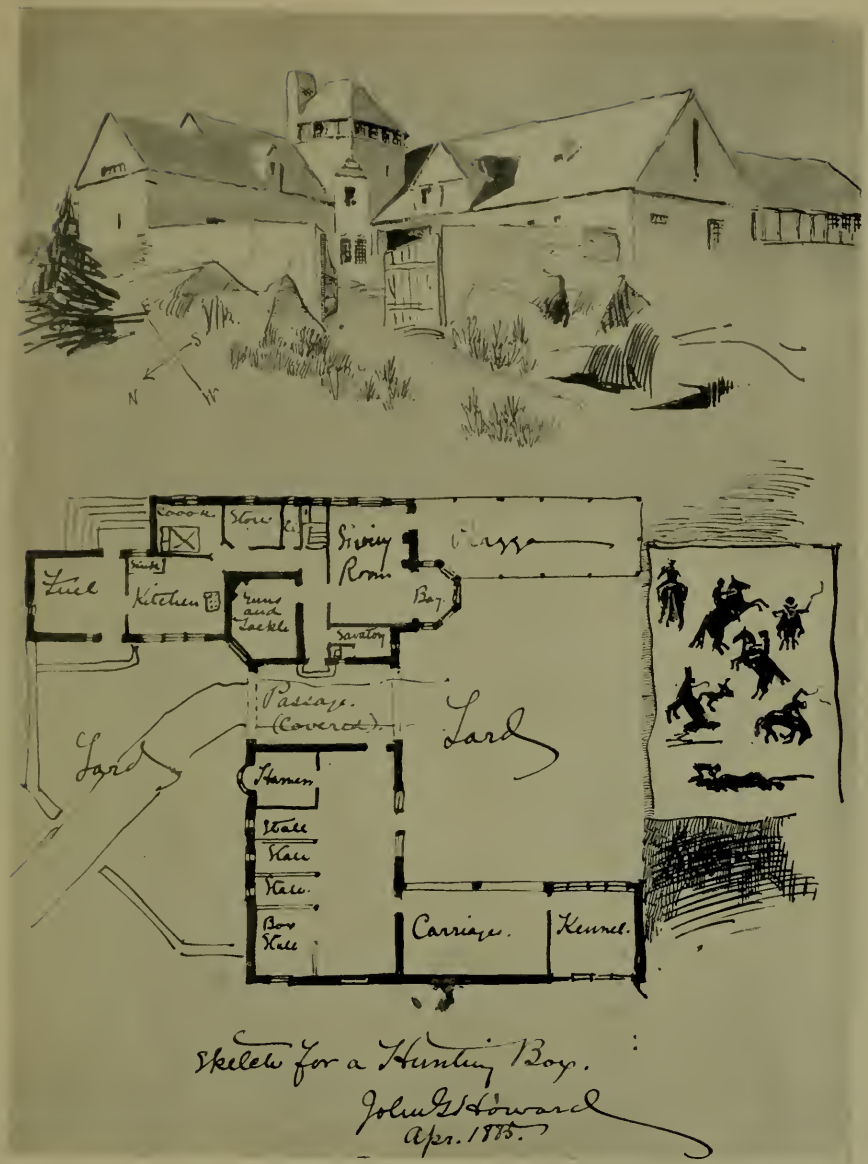
HOWARD'S BIRTHPLACE AT CHELMSFORD, MASSACHUSETTS



HERE IS A PERSPECTIVE AND
PLANS OF MR. HOWARD'S
FIRST CONSTRUCTED BUILDING



THIS GRAPHIC SKETCH FOR A HUNTING "BOX" (LODGE) WAS MADE BY MR. HOWARD IN 1885

PROBLEM IN DESIGN, "AN EXEDRA ON A BRIDGE"
JOHN GALEN HOWARD (1885) MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PROBLEM IN DESIGN, "A MONUMENTAL STAIRWAY"
JOHN GALEN HOWARD (1885) MASSACHUSETTS INSTITUTE OF TECHNOLOGY

A SKETCH IN SOUTHERN CALIFORNIA
Initialed and dated 1888

WHAT OUR CALIFORNIA ARCHITECTS ARE BUILDING TODAY
This pen sketch of an adobe farm house was made by Mr. Howard in 1888

CORNER OF MUSIC ROOM, LOOKING INTO ENTRANCE HALLWAY, HOUSE IN PIEDMONT, CALIFORNIA

CLARENCE A. TANTAU, ARCHITECT

LIVING ROOM IN PIEDMONT HOME
CLARENCE A. TANTAU, ARCHITECT

VICISSITUDES OF A YOUNG ARCHITECT

Fourth of a Series of Reminiscent Sketches of the Early Architectural Practice of the Author

by
ELMER GREY, F. A. I. A.

WHEN the job in Hollywood petered out I moved to Monrovia, where I purchased a spirited young saddle horse that had never been thoroughly broken, and by riding and playing tennis proceeded to further build up my health. I constructed a corral for my horse in a grove of eucalyptus trees up against the foothills, and for awhile lived in a tent next to it, taking my meals in a house near by. One moonlight night he broke out of the corral and ran into a nearby orange orchard, and it is just too bad that as I chased him around in my pajamas trying to catch him I did not have an audience.

Frequently I rode out Sunday mornings toward Pasadena and for several successive Sundays by pre-arrangement met Mr. Myron Hunt, the architect, half-way, after which we would ride around together. My land-lady, who was a strict church-goer, finally took me to task for this procedure, saying, "I don't know what it is that takes you away from church every Sunday morning, but I can tell you one thing, that no good will come of it." She was a poor prophetess and also a poor moralist. For my rides with Mr. Hunt finally eventuated in a partnership which proved to be anything but what she predicted. She was a poor moralist because she had two sons who were forest rangers, a part of whose duty it was to see that no deer were killed out of season. Yet while I took my meals there five deer were killed out of season and served up at the table with a wink by their mother!

I taught my horse to be bridle-wise, but put him in the hands of a trainer to break to harness, and he was finally pronounced harness broken. I then decided to sell him and placed a liner in the paper advertising him as "perfectly gentle and harness broken". For some reason they ran the ad much longer than I had intended and in the meantime I tried him in harness myself. What happened was described in an article in the Monrovia newspaper in a column which appeared right next to the ad still running describing him as perfectly gentle and harness broken. It read as follows:—

"A lively runaway occurred on Myrtle avenue Monday evening and horses, carts, wagons and young men gave a lightning

HUNTINGTON ART GALLERY, SAN MARINO, CALIFORNIA
Myron Hunt and Elmer Grey, Architects

CHRISTIAN SCIENCE CHURCH, MILWAUKEE
Elmer Grey, Architect

exhibition of what things animate and inanimate can do upon a moment's notice. Elmer Grey, a guest at the La Vista Grande, was driving a partly broken horse down Lemon Avenue when the animal started on a wicked run. It had its head down and was making a bee-line for the Sunset Telephone office, probably in answer to a call of long distance, when it struck Renaker's furniture wagon amidships. For a sickening second or so Mr. Grey, the horse, cart, wagon and Taylor Renaker were mixed to a finish, but fortunately injuries were not serious. Mr. Grey was badly cut about the head but is recovering rapidly."

Needless to say I did not sell my horse in Monrovia! I should add, however, that I did sell him later for three times what I paid for him. He never lost his love for

the wilds. Frequently when I rode him into the mountains it was with difficulty that I could get him to return to the habitats of man. Finally, I sold him in Pasadena to a liveryman for his own private mount and he later sold him as a trick animal to the movies.

In my partnership with Mr. Hunt the arrangement at first was that I should spend only a short time each day in the office until my nerves got in better shape. My financial interest was therefore slight at first. So, after spending all these months knocking about I began to feel sadly in need of funds. When my practice in Milwaukee broke up my affairs were turned over to a relative who, of course, was not very familiar with many of its aspects—and I never went back to straighten them out. He had long since informed me that all the funds due from my former commissions had been collected, so I had nothing to expect from that quarter.

One morning when I was feeling particularly hard up I came to the office to find a letter from the secretary of the Milwaukee Christian Science church which read: — "We have for a long time been awaiting your final bill for services rendered in connection with our church edifice. Not having heard from you about it and not wishing to have the account run longer we have figured up the amount we believe is still due you and enclose our check for $400.

It was like manna from Heaven!

My partnership with Mr. Hunt lasted several years during which we planned the Henry E. Huntington residence (now the Huntington Art Gallery) the central building for the California Institute of Technology and much other important work. It gave me a start in California which, as a stranger with impaired health, I might otherwise have found it difficult to secure.

(To be continued)

Vicissitudes of a Young Architect

This series of entertaining sketches by . . . .

ELMER GREY

the last of which is published this month, has aroused so much interest that the Editor has asked Mr. Grey to extend the installment. . . The author has promised to do so and in his next two articles he will describe his experiences during a trip to the South Sea Islands. . . One of the passengers aboard the steamer which took Mr. Grey to the Islands, and who later experienced a tragic death, was at that time a close friend of a very prominent San Francisco architect. . . .

Don't fail to read Mr. Grey's graphic account of his South Sea Island experience, beginning with the March number.

Courtesy Camera Craft

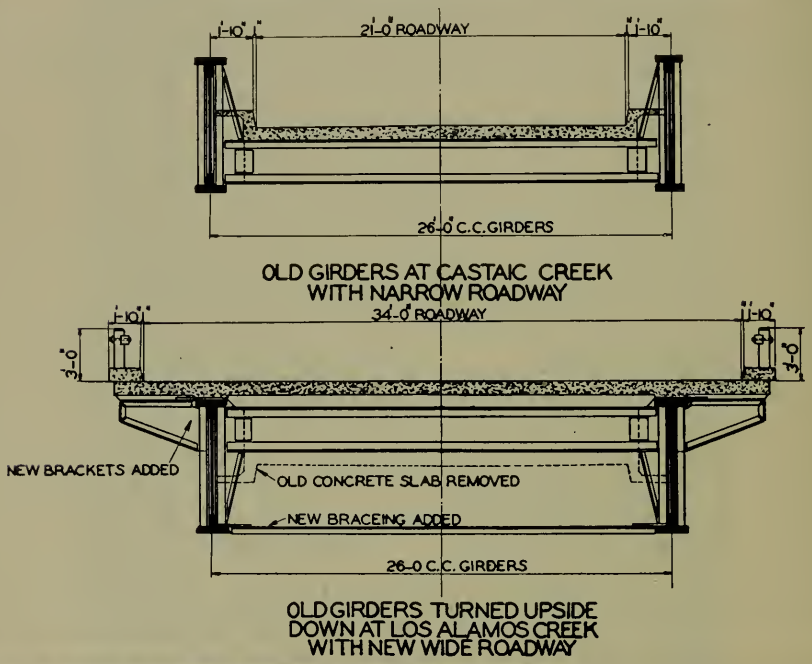
"SUNLIGHT: PENNSYLVANIA DEPOT"
Irving Menchik

Engineering
and
Building Construction

The Story of How the California State Division of Highways Salvaged an Old Steel Girder Bridge by Turning it Upside Down

SALVAGING AN OLD STEEL BRIDGE

Before taking the upside-down treatment, the old Castaic Creek Bridge had been relegated to the limbo of the forgotten past by the progress of road engineering. Improved alignment and grades left it an abandoned, obsolete structure with an old type 21-foot roadway.



View of bridge after taking the surgical treatment that dismembered it and turned the 80-foot steel girders bottom-side up. It is now a perfectly modern structure with a 34-foot roadway, spanning Los Alamos Creek, on the new Ridge Route alternate.

OLD BRIDGE CHANGED TO NEW ONE BY REVERSING STEEL GIRDERS

THE bridge department of the California State Division of Highways, has given the engineering profession something to talk about. It is not unusual to dismantle an old steel bridge and re-erect it in a new location, but it is seldom one hears of a bridge being turned upside down and made into a new one on virtually the same site as it has stood and served its purpose for years.

Such a salvaging operation was accomplished by the bridge department of the California Division of Highways, when an old plate girder bridge on the state highway at Castaic Creek was transferred to the Ridge Route Alternate at Los Alamos Creek, and it is probably the only one of its kind on record. Three 80-ft. steel plate girders carried a 21-ft. roadway over Castaic Creek. Turned upside down they now carry a 34-ft. roadway over Los Alamos Creek.

Writing of this achievement in *California Highways and Public Works*, official state publication, L. C. Hollister, associate bridge designing engineer at Sacramento, says:

On the relocation of the Ridge Route between Los Angeles and Bakersfield, where many steep grades and sharp curves have been eliminated, there are seven bridges, four across Piru Creek, one across Gorman Creek, and two across Los Alamos Creek. At Los Alamos Creek, Station 83, it appeared from the field data submitted, that a structure about 220 feet long, consisting of approximately one 80-foot and two 72-foot spans would be required.

At Castaic Creek on the Los Angeles end of the line change, there were thrown out of use, due to improved alignment and grades, three 80-foot steel girder spans. These girders were of the "through" type, that is, the narrow 21-foot roadway passed through the girders, the girders taking the place of a railing.

The girders, however, were in excellent condition and being of practically the same length as those required at Los Alamos Creek, it was conceived that they might in some way be made use of at the new location.

Accordingly, preliminary investigations were made to see if such a thing would be feasible and practical, and preliminary estimates were made to see if it would be more economical to move the old girders than to build entirely new ones. These investigations and estimates showed that it was both practical and economical to move the old girders and refabricate them to meet the new conditions.

The work consisted of the following:

1. Removing old concrete floor.
2. Dismantling and removing old girders, floor beams and bracing.
3. Transporting old structural steel to the new location.
4. Fabricating the old steel to meet the new requirements and conditions.
5. Erecting the steel on the new piers and abutments.

Removing the old concrete floor was done with air drills and hammers, care being taken not to injure the structural steel.

Dismantling the structural steel was more of a job, as about 4500 steel rivets had to be removed in order to disconnect the floor beams and bracing and to divide each girder into two parts so that they could be transported.

Moving the steel to the new location was done by trucks and trailers. The traffic law requires that no vehicle plus the load shall exceed a length of 75 feet. This meant that the 80-foot girders had to be cut at the splices and hauled in separate pieces.

After the old steel arrived at the new location, the fabrication was started. New steel plates and angles were added to form new brackets and new bracing and 1300 holes were drilled through the old steel to form connections for the new steel. The old bearing shoes were removed from the bottoms of the girders and put on the tops.

Erecting the refabricated girders on the new piers and abutments followed. This time they were erected completely upside down compared to their original position. Following the erection the steel was thoroughly cleaned, sand blasted, and given three new coats of paint, and a final coat of aluminum paint.

Two of the 80-ft. girders were cut off at one end to make the exact spans. The girders were set 26 ft. apart center to center. A reinforced concrete deck 9 in. thick, providing a roadway 34 ft. wide, was constructed on top of the girders, supported by beams inside and brackets outside the girders, these being spaced 10 ft. on centers. The concrete slab was reinforced longitudinally. A concrete curb was built on the outside edge of the slab on either side and a wooden guard rail was set in this curb. Holes were made in the curbs for the posts. These were coated with asphalt and the posts were fastened in with cement grout.

Approximately 72,000 lbs. of new steel for brackets, braces, etc., were required for the job.

A. B. Willett, E. H. McBroom and M. Palmieri were assigned to the design in the bridge department. Victor A. Endersby of the Los Angeles office of the department, had supervision of the work. A. K. Gilbert was resident engineer.

ARTIFICIAL EARTHQUAKES AID ENGINEERS IN SHOCK TESTS

WITH the development of a 6,000 pound vibration table in the Stanford University mechanical engineering laboratory, experts are able to create on a small scale the effects of earthquakes.

So far, the large table, which resembles a flat car, can only shake to and fro. Engineers working with Dr. Lydik S. Jacobsen, associate professor of mechanical engineering, are planning to produce sideway shocks.

The object of this earthquake "factory" is to test the shock-resistance of various structures, in order that more may be learned of the force of real earth disturbances on such heavy constructions as office buildings, dams and bridges. From these experiments engineers hope to devise methods of improving present quake-proof architecture.

Held in place by a heavy steel spring, the table receives severe impacts from a 1,000-pound pendulum while miniature structures, somewhat like the framework of a skyscraper, are placed upon it. With the aid of a high-speed movie camera it is possible to observe where the models suffer the worst strain. Thus it can be determined where buildings would be most likely to collapse and where reinforcements are most needed.

The pendulum is supplemented by an unbalanced flywheel mounted on the table. This produces the continued vibrations often occurring in real quakes.

With another type of apparatus, shocks have been manufactured that approximate the force of the 1923 Tokio disaster on a proportionate scale.

Despite the value of the quake-machine in improving building construction, Dr. Jacobsen cautions that danger cannot be completely eliminated in all cases, as some existing structures are unavoidably menaced by their location on geologic faultlines.

« « « « With the Architects » » » »

NURSES' HOME

There are prospects of an architect being employed to prepare plans for a new Nurses' Home at the San Francisco City and County Hospital, at an estimated cost of $250,000. This money is to be made available from a fund of $500,000 originally intended to be spent for a building at the County Hospital.

Another prospective commission for a San Francisco architect is a new building at the Agnew State Hospital near San Jose. A bill authorizing the expenditure of $350,000 for such a structure has been introduced in the State Legislature.

BAYWOOD RESIDENCE

Chester H. Treichel, architect, 679 Haddon Road, Oakland, has completed plans and specifications for a Spanish style stucco residence in Baywood, San Mateo County, for Preston Deitz, 1110 Grove Street, Burlingame. The house will cost $10,000.

The same architect has also prepared drawings for an English farm house in Baywood for an unnamed owner to cost $11,000.

GROUP OF STUCCO HOMES

R. R. Irvine, 2048 Market Street, San Francisco, is preparing plans for a group of one-story and basement stucco dwellings to be erected on 36th Avenue, north of Kirkham Street, San Francisco, at an estimated cost of $5,500 each. The houses will be built around a patio as originated by the firm of Irvine and Ebbets.

MONTEREY BUILDING

The American Railway Express Company will have a new building at Monterey from plans by Alexander McBain, Wells Fargo Building, San Francisco. The company will lease the property from Mrs. Lulu R. Bussey. The building will be 70x25 feet, one-story concrete, and will cost $10,000.

RENO COLONIAL RESIDENCE

Plans have been completed by F. J. de Longchamps, Reno Gazette Building, Reno, for a $45,000 Colonial residence in Reno for L. D. Graham.

OAKLAND STORE BUILDING

Plans have been completed by Albert J. Evers, 525 Market Sttreet, San Francisco, for a one-story, basement and mezzanine class C store building to be erected on Broadway, north of 19th Street, Oakland, for the 20th and Broadway Realty Company. Earl Cope is the structural engineer. The new building has been leased by Charles Kushins, formerly in charge of Roos Brothers shoe department.

ARNOLD S. CONSTABLE BUSY

A revival of work in the office of Arnold S. Constable, architect, 580 Market Street, San Francisco, includes a two-story and basement brick rectory and an addition to St. Vincent's Church, Vallejo, to cost $45,000, and the revision of plans for a building in Berkeley for Albert the Great College, from a Class C to Class A structure.

COUNTRY HOUSE

W. C. Ambrose, 244 Kearny Street, San Francisco, is preparing plans for an Eastern client for a part one and part two story rustic farmhouse to be erected at Inverness, Marin County, this spring, at a cost of $14,000. The house will have seven rooms, three baths and garage, split shake exterior, shingle roof, stone fireplace, etc.

WATSONVILLE STORE BUILDING

William H. Weeks, 525 Market Street, San Francisco, is the architect and part owner of a one-story reinforced concrete store building to be erected in Watsonville and to be occupied by a chain store. The estimated cost is $7,500.

CANNERY WAREHOUSE

A one-story brick warehouse is to be erected at 9th and Mission Streets, San Jose, by the Austin Company of California for the Continental Can Company. Improvements will cost about $22,000.

OAKLAND FACTORY

A $12,000 brick factory will be erected on 16th Avenue, near East 12th Street, Oakland, from plans by W. E. Schirmer, architect, Financial Center Building, Oakland.

NEW CURE FOR DEPRESSION

At a recent meeting of the Illinois Society of Architects in Chicago, an "Unemployment Program" which had been prepared and circulated by Hjalmar Cederstrom, a noted architect of Stockholm, was read and discussed at the request of President Fugard. Mr. Cederstrom considers "an antiquated education" as the basic cause of the present world crisis. He says "an education, the only object of which is to make individuals fit for competition, teaches youth that the main thing in life is to obtain a safe position in society. Must not such an education always result in a struggle between individuals in which the strongest tramples on the weakest, and must not this struggle consequently lead to a World war?" He eloquently pleads for "an education based more on human nature" in which the youth of the world is taught other valuations to life than things merely material.

Dealing directly with the unemployment question he advocates an active policy of public works to be carried on steadily and in times of depression, like today, greatly accelerated. He specifies two essentials to a public works program: (1) It must provide work for the unemployed. (2) It must provide a future means of livelihood for certain persons by means of that work.

Mr. Cederstrom is against any form of "dole" but points out the grave dangers which will result from sudden or forced economies. He then suggests the type of work which should be allocated to youth and that reserved for the aged or infirm. In the new era upon which the world has entered he says: "The point is to find work and means of support for a great number of people without everybody deriving profit from the work that has to be done." He further says, "When it is a question of choosing the branch (of industry) to which the new work should be allocated, our thorough investigations into the matter have convinced us that it should be placed in that branch which in most countries forms the key to the industrial structure—the building trade" and shows how only very large building projects can really influence the supply of work. All this is sound and thoroughly in accord with the findings of President Hoover's "Housing and Home Building Conference" held in Washington, December, 1931. Mr. Cederstrom lays great stress on the necessity of an international program of reconstruction, if any solution for the present world-wide distress is to be arrived at.

SIGNIFICANCE OF ENGINEERS' DAY

By Joseph Harrington

An occasion on which the best minds of the world foregather to exchange ideas, cannot fail to have the greatest significance for all those interested in the subject touched upon. This is especially so when the agenda provides a directional influence towards those things so intimately touching our every day lives, as will be the case on "Engineers' Day" at A Century of Progress next June.

On this day, especially set apart and dedicated to the engineer, will be presented to the world a marvelous series of demonstrations of the wonders wrought by science since the founding of Chicago. That engineers may see the fruits of their own efforts, every mechanical, electrical and physical piece of apparatus will be in service, producing the results that have made this the Age of Wonder. Exhibitors, realizing the critical nature of their audience, will be on their toes, that their equipment may show to best advantage to the thousands of understanding visitors who will be there. And thousands will be there, for this is the great day of the engineer. Nineteen of the national societies, with a membership of one hundred thousand, have set this day and week for a world-wide conclave. Great engineers from all over the world will come to see the achievements of American genius.

Conferences of the several societies will listen to the reading of papers on scientific subjects by recognized authorities, and discussions by other equally famous engineers. No one, either directly or indirectly affiliated with industry, can afford to miss this opportunity. With the world for an audience, the best thoughts of the best minds will characterize the discussions. Undoubtedly some permanent record will be made, and the history of science enriched by the master contributions.

The part played by engineers in the moulding of civilization will be held up to the gaze of the world. This marvelous opportunity offered to a group of men ordinarily self-effacing, shall not be passed without adequate recognition. Man owes an incalculable debt to the engineer, the recognition of which will serve to dignify and sustain the position of the profession and implant in the minds of men some idea of his service to humanity. This day will indeed signify that the engineer is the mainspring of human progress, gladly serving his fellow-men and ever ready to heed the call to new and better things.

MODERN ARCHITECTURE EXHIBIT

An interesting exhibition of modern art and architecture was held at the University of California Extension Building, 540 Powell Street, San Francisco, in January.

The exhibition was arranged by Edwin Hunt, lecturer on interior decoration for the University extension division, both for its educational value and as an inspiration to local builders.

California homes, designed by Frank Lloyd Wright and his son, Lloyd Wright, constituted one of the most interesting features of the exhibit. A skyscraper church in Tulsa, Okla., the work of Bruce Goff, was another design of outstanding interest.

Other architects represented were: James Urban of New York, Eli Jacques Kahn of New York, Miller and Pflueger, and Albert Roller of San Francisco.

VENTURA COUNTY STATE HOSPITAL

An opinion rendered to State Architect George B. McDougall, by Attorney General U. S. Webb, states that authority to employ practicing architects to design the new California State Hospital buildings in Ventura County, near Camarillo, is vested in the board of managers of the institution. He asserts that the board is expressly empowered by Section 2151 of the Political Code, authorizing the project, to engage architects at its discretion. Plans for a portion of the first unit of the hospital now are being prepared by the State Architect under authorization from the board. An airplane perspective of the hospital group was published in THE ARCHITECT AND ENGINEER last month.

A. W. SMITH

Alfred W. Smith, for over thirty-five years a practicing architect in Oakland, died at his home in Berkeley early in January after a short illness. A native of Louisiana, Mr. Smith had been a resident of the Bay Region for nearly sixty-five years.

Mr. Smith planned a number of well known buildings in the East Bay, including the Ebell Club, the Gibson Engineering School, and a number of sorority and fraternity houses in Berkeley.

He is survived by his widow, Mrs. Lilias Smith, and by two daughters.

BIG ALTERATION JOB

Henry Bittman, Securities Building, Seattle, is preparing the plans for the transformation of the Shopping Tower at Third Avenue and Pine Street into headquarters for the Northwestern Mutual Fire Association. It is one of the largest remodeling projects announced this year in Seattle.

VENTURA POST OFFICE

Harold E. Burket, 455 E. Main Street, Ventura, has completed working drawings for the United States post office building to be erected at the corner of Santa Clara and Fir Streets, Ventura. In addition to the post office departments, the building will provide offices for the Department of Agriculture, Department of Labor and the Department of Internal Revenue. The structure will be a one-story and part two-story, California style, of architecture, and will cover an area of 146x110 feet. It will be of masonry and steel construction, with cream colored face brick exterior, terra cotta trim, stone base course, tile roof, tile floor and wainscoting and a redwood ceiling in the lobby. Metal windows, vaults, steam heat, etc., will be included in the $150,000 structure.

FOSHAY TOWER SOLD FOR TAXES

The 32-story Foshay Tower, built in Minneapolis by W. B. Foshay in 1928, has been sold by the county auditor to the state, conditionally, for taxes.

Foshay Tower cost over $1,000,000 and the state, which was the only bidder, took title for $117,500, the amount of the 1929 and 1930 delinquent taxes.

At least twice before in the past two or three years the building has been put up for auction but there have been no bidders.

The Foshay Building in San Francisco is on Kearny Street, between Sutter and Bush Streets. It was designed by August Nordin and has been vacant for some time.

THOMAS P. BARBER

Thomas P. Barber, who died at his home in Glendale of heart disease, aged 70 years, was widely known in the west as a church architect. He came to Los Angeles 10 years ago from Colorado Springs, Colorado, where he had previously practiced for many years. Two notable examples of his work are the First Methodist church in Pasadena, and the Hollywood Methodist church. He also designed the First Methodist church at Ventura, the Pacific Palisades church and in association with Paul R. Kingsbury, the McCarthy Memorial church at 4103 W. Adams Street, Los Angeles.

ARCHITECT GIVEN JUDGMENT

Judgment of $311 and costs of suit were awarded by Superior Judge James L. Atteridge of Santa Cruz to E. L. Norberg, architect, against Robert A. Klassen, of San Carlos, for work done on a San Carlos apartment house.

This is $500 less than Norberg was awarded at a previous trial, which brought him a judgment of $835.30. The new trial won by Klassen was terminated after a three-day hearing.

TRADE EXTENSION CLASSES

Adult trade extension classes, conducted by the San Francisco Board of Education for men of the building trades, are announced.

All of the instructors engaged in this educational work are outstanding men in the building industry and each is a specialist in the field covered by the work of his class.

There will be special classes for the building trades in plan reading, drafting, architecture, applied arithmetic, algebra, geometry and trigonometry, leveling and surveying and advanced surveying, and estimating; also timber, concrete and structural steel design and construction.

The classes are conducted in the technical department annex, Humboldt Evening High School, 22nd and Bartlett Streets, San Francisco.

LOS ANGELES EXHIBITION

An outstanding art event for February 15 to 28 will be an exhibit of colorful murals by Margaret A. Dobson in the exhibition rooms of the Architects Building, Fifth and Figueroa Streets, Los Angeles.

Miss Dobson was awarded a medal from the French Masters of Fine Arts for decorating a school in Paris. While in France she also executed decorations for the Church at Montereau, not far from Paris, also executed two commissions for the hospital at Fontainebleau and a room in the Palace at Fontainebleau, a real honor for an American artist.

Since returning to this country Miss Dobson executed a decoration for one of the Colonial buildings of the Pennsylvania Academy of Fine Arts School at Chester Springs, Pennsylvania. She is a member of the National Arts Club in New York, a member of the Societe des Artists Presquistes, Paris.

EXHIBITIONS

Several interesting exhibitions have recently been sponsored by members of the architectural profession and artists in the Bay Region.

An exhibit of modern architecture was held at the Berkeley Women's City Club in connection with Frank Lloyd Wright's lecture on December 25. Mr. Wright's subject was "The Future of American Architecture."

An exhibition of modern sculpture was held at the City of Paris, San Francisco, the latter part of January. Warren Cheney, whose work is illustrated in this issue of THE ARCHITECT AND ENGINEER, was among the exhibitors.

A splendid exhibition of small houses, ranging from $3,500 to $7,500, designed in accordance with present day low building costs by the office of Edwin L. Snyder, architect, was held February 1-15 at the Mason-McDuffy studio, 2104 Addison Street, Berkeley. The interior decorations were arranged by Mrs. Harold Keith. The exhibition aroused so much interest in Berkeley and Oakland that it will be continued for the remainder of the month.

GOLDEN GATE BRIDGE MANAGER

James Reed, naval commander and construction engineer, has been elected to the post of general manager of the Golden Gate Bridge and Highway District, on the recommendation of the bridge directors' policy committee. He succeeds Alan MacDonald, resigned.

Reed was nominated by Director Keesling following his recommendation by a majority of the policy committee, which considered more than eighty applications.

Before the directors voted on Reed, the minority report of the policy committee in favor of A. W. Deuel, general manager of the San Mateo bridge, was presented and appointment of Deuel was moved by Director William Stanton. Stanton's motion failed to carry. The election of Reed was made unanimous at the request of the four directors who originally voted for Deuel.

Reed's salary as manager is "not to exceed $12,000 a year."

Reed, at present general manager of the Schlage Lock Company, has served as a construction expert at the Mare Island, Bremerton and Brooklyn navy yards, and as shop superintendent at the Philadelphia yard.

He was graduated from the United States Naval Academy in 1902, and from the Massachusetts Institute of Technology in 1907.

Since his retirement from the Navy, he has acted as construction expert on a number of large projects.

STOCKTON EXHIBITION

An architectural building exhibit is planned for early spring by the Stockton members of the State Association of Architects.

The purpose of the exhibit is to show with sketches and photographs the necessity of intelligent designing in planning and erection of new buildings and the renovation of old structures, according to L. G. Ernst, member of the publicity committee.

Committees arranging for the exhibit are: Location, Victor Galbraith and Joseph Losekann; finance, Frank Mayo and Peter Sala; publicity, Glen Allen and E. G. Ernst; school and poster competition, Howard Bissell; prizes, J. Clowdsley and Ralph Morrell.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $18.00 per M (average).
Common O.P. select, average, $22.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	42.00 per M
1x4 No. 2 flooring	36.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$30.00 per M
1x4 No. 3 flooring	26.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.
1 1-16x2¼" T & G Maple	117.00 M ft.
⅞x3½ sq. edge Maple	110.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.50 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.50 base.

Millwork—
O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$ .90 lineal foot
8-inch	1.30 lineal foot
10-inch	1.50 lineal foot
12-inch	1.75 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.46
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.50
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped) .17
2.6-lb. metal lath (galvanized) .20
3.4-lb. metal lath (dipped) .22
3.4-lb. metal lath (galvanized) .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $15.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.86 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.16
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 6 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, $1.00 sq. ft. (not glazed).
Galvanized Iron, 25c sq. ft. (not glazed).

Steel—Structural
$78 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $71 to $75 per ton cost of steel; average building, $77.00.

Steel Reinforcing—
$68.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	9.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

Chapter and Club Meetings

WASHINGTON STATE CHAPTER

All incumbent officers of the Washington State Chapter, A. I. A., were re-elected at the thirty-eighth annual session Saturday, January 14, at the New Washington Hotel, Seattle. "Confidence in Architecture" was the subject of the annual address by the Chapter president, J. Lister Holmes.

Frederick V. Lockman, Seattle, was elected trustee for a three-year term as successor to Harlan Thomas, whose term expired.

Holding of a joint conference of the Western-Mountain and Sierra-Nevada Chapters was proposed in a letter received from Raymond J. Ashton of Salt Lake City, Utah, who is regional director. This conference is suggested as a substitute for the national convention, effective for this year. States in the Western-Mountain division are: Oregon, Washington, Idaho, Utah, Wyoming, Colorado and Montana. The Sierra-Nevada division includes: California, Nevada, Arizona and New Mexico. The convention delegates chosen are: President and secretary ex-officio, Harold C. Whitehouse of Spokane, George W. Stoddard of Seattle, and Mr. McClelland.

Standing committees and chairmen who reported activities were as follows: Civic design, Gove; education, Gould; exhibitions, Stoddard; ordinances, Lockman; competitions, William R. Grant; professional practice, McClelland; public information, Victor Jones; ways and means, Priteca.

At the evening session a farcial skit depicting a session of the executive board was presented. It was written by Arthur L. Loveless. A dissertation on "Modern Trends in Architecture" was offered by Arthur Hermann and Floyd Naramore. The negative was given by Lance Gowen, and the summary by Marcus Priteca. Forty-five members attended.

THE ARCHITECT AND TECHNOCRACY

"Is Technocracy Worthy of Our Consideration?" was the subject of a paper read by Reginald D. Johnson at the January meeting of the Southern California Chapter, A.I.A. Mr. Johnson summed up his findings by stating that technocracy probably cannot be successfully applied at the present time, although it demands some consideration. A general discussion on the subject followed.

Sumner Spaulding, vice-president of the Chapter, presided and introduced the following guests: Bernard Hoffman of Santa Barbara: Harold Crowell, former president of the Southern California Chapter, Associated General Contractors; and Professor Angel Guido of South America.

The annual report of the president of the Chapter was read by Palmer Sabin.

SAN FRANCISCO ARCHITECTURAL CLUB

Members and guests have enjoyed the informal showing of an exhibition of the Rome prize drawings and also a collection of work done in other Ateliers and Colleges programmed by the Beaux Arts Institute of Design.

* * *

The depression did not interfere with the welcoming in of the New Year, as the members took advantage of their club quarters in giving what may be considered an all time successful New Years Eve party.

* * *

At the last regular business meeting, the following officers were elected to carry on for 1933: President, Donnell E. Jaekle; Vice-President, Edward C. Counter; Secretary, H. Walter Ruppel; Treasurer, Sterling Carter; Directors, H. Johnson, A. R. Carpenter and E. K. McNinch.

The members and officers are looking forward to a big year which has started with the same pep that characterized the successful year of 1932.

* * *

Classes have been started in various subjects pertaining to architecture and engineering and these are held each evening of the week. It is the feeling of the committee on education that during the present lull in building activity, the draftsman should better himself in taking advantage of these classes. Information regarding this programme will gladly be sent on request.—H. W. R.

LANDSCAPE ARCHITECTS ELECT

The annual election of the Pacific Coast Chapter, American Society of Landscape Architects, resulted as follows: President, L. Deming Tilton; Vice-President, Frederick N. Evans; Treasurer, Russell L. McKown; Secretary, Miss Katherine Bashford; Executive Committee, John W. Gregg and George D. Hall.

ENGINEERS' DAY

The Engineers' Council of the University of California, announces the seventh annual Engineers' Day at the University of California campus, Berkeley, on March 10.

Engineers' Day has always been a great success, especially by virtue of its benefit to those interested in the trend of modern engineering methods.

The program for the day will feature open house in the departments of electrical, civil, mining, mechanical and chemical engineering from 1:00 to 6:00 P. M. Among the fifty or more demonstrations there will be:

A Symposium on Welding; Golden Gate and Bay Bridge Models; Television; Modulated Light Beam Communication; Kerosene, Hot Air, Diesel Engines; Tesla Coil High Frequency Demonstration; Fatigue Tests; Airplane Construction; Pelton Water Wheel; Liquid Air.

WASHINGTON STATE SOCIETY

The following officers were elected at the annual meeting of the Washington State Society of Architects held Thursday evening, January 12, at the Moore Hotel, Seattle, President John S. Hudson, presiding: President, John S. Hudson of Seattle; First Vice-President, Julius A. Zittle of Spokane; Second Vice-President, Stanley A. Smith of Pullman; Third Vice-President, Robert Max Thorne of Renton; Fourth Vice-President, R. C. Stanley of Seattle; Secretary, Isaac L. Wright of Seattle; Treasurer, Harry G. Hammond of Seattle; Trustee, W. C. Jackson of Seattle.

PORTLAND ARCHITECT HONORED

O. R. Bean, member of the architectural firm of Lawrence, Holford, Allyn and Bean of Portland, Oregon, has recently been elected City Commissioner against a large field of candidates. Although his first experience in politics, his decisive victory at the polls is considered to be a public recognition of his contributions to public service in his work on the Housing Code, Board of Appeal, and on committees of the Oregon Building Congress and the City Club.

PIER ALTERATIONS

Frank G. White, engineer for the State Harbor Commission, reports that plans are being completed for a $100,000 extension to Pier 35 at the foot of Bay Street, San Francisco. The addition will be of timber and will be built on a concrete sub-structure. A new elevator is included in the work.

ART COMMISSION HAS BUSY YEAR

During the year 1932 the Los Angeles Municipal Art Commission approved plans for eighty-two buildings and structures, sculptures and paintings estimated to cost $3,032,905. In addition, the commission gave approval as to the scheme generally and the "set back" plan for the proposed union passenger station in the Los Angeles Plaza district.

Among the important public works projects given preliminary approval were the Figueroa Street viaduct over Los Angeles river, Southern Pacific tracks and San Fernando Road, estimated to cost $900,000; and Figueroa Street tunnel No. 4, between Solano Avenue and Bishop Road, to cost $500,000. Final approval was given to the $200,000 Silver Lake Boulevard-Temple Street grade separation, and the $225,000 Silver Lake-Sunset Boulevard grade separation structures.

Public building projects approved included the $275,000 San Fernando Valley city hall at Van Nuys.

The commission definitely went on record, urging that in the designing of municipal buildings, attention should be given to fitting the architecture to the particular locality in which the building was to be erected and that a design should not be selected only because it was a good example of architecture. C. M. Winslow, architect-commissioner, warned that the modern type might be a fad and only temporary.

Other building plans approved included the $450,000 planetarium in Griffith Park and the $110,000 municipal power station at 6776 Hawthorne Avenue.

Eleven mural paintings were approved for the rotunda of the Central Public Library. These are: "Fire," "Water," "Art," "Industry," "Education," "Commerce," "Founding of Los Angeles," "Discovery of California," "Arrival California," "Arrival of the White Woman," "Gold in the Earth," and "Gold in the Air." Dean Cornwell is the artist. The estimated cost of the paintings is $45,555. The commission viewed these at the studio of the artist during the progress of the work.

$350,000 RESIDENCE

Reginald D. Johnson, 707 Architects Building, Los Angeles, is preparing working plans for a two-story and basement residence to be erected on East Cabrillo Boulevard, Santa Barbara, for Mrs. Wm. A. Clark. There will be approximately thirty rooms. The house will be U-shaped, extreme dimensions 150x175 feet; reinforced concrete construction, masonry veneer exterior, wood roof framing, and shingle tile roof. The cost is estimated at $350,000.

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PERSONAL

Ralph D. Cornell of Cook, Hall and Cornell, landscape architects of Los Angeles, met with an unusual accident recently when a eucalyptus tree fell on the machine in which he was riding. The accident occurred at the height of a severe wind storm. Mr Cornell was fortunate in escaping serious injury although he was prevented from attending to his professional duties for several days.

Lewis P. Hobart, architect, has been re-elected president of the San Francisco Art Commission.

Harry H. James, member of the Washington state examining board, has moved his office from the Lowman Building to 1104 Third Avenue, Seattle.

Scott Quintin of Los Angeles county, has been elected president of the San Gabriel Chamber of Commerce for 1933.

John P. Krempel and Walter E. Erkes have moved their offices from the Transamerica Building to suite 1206-07 Rives-Strong Building, Ninth and Main Streets, Los Angeles.

Floyd A. Naramore, school architect of Seattle, who sojourned in Europe all summer, has returned home and resumed practice.

G. M. Fitzhugh, architect, has been elected president of the Phoenix, Arizona, Building Congress.

ENGLISH RESIDENCE

Harold G. Stoner, 810 Ulloa Street, San Francisco, is preparing preliminary drawings for a two-story and basement English residence in Hillsborough Park, San Mateo County, for Dr. W. H. Murphy, 205 Third Avenue, San Mateo. The house will have nine rooms, three baths, oil burning steam heat, hardwood floors, etc.

ADDITION TO MAUSOLEUM

H. A. Minton, architect, 525 Market Street, San Francisco, and L. H. Nishkian, engineer, are completing drawings for a north wing addition of reinforced concrete to the Holy Cross mausoleum in San Mateo County. Interior will be entirely of marble. The estimated cost is $100,000.

MOVING A 300 YEAR OLD ROOM

A 300 year old room and its equally antique furnishings which were transported from Switzerland to the Toledo Museum of Art a few years ago, again were moved to a new setting when the Museum recently tripled its size by the addition of two huge wings which were opened to the public January 10.

The room originally formed part of the "Villa Solitude" on the shore of the lake at Zurich. When the villa was demolished a few years ago, the one room and its contents were purchased by Mrs. Nettie Poe Ketcham to be presented to the Toledo institution. The walnut panelling of the walls and ceiling was carefully taken apart, the quaint bottle windows removed, the great tile stove dismantled and, together with a table even older than the room, chairs, a cradle, a book case with several hundred volumes and various household utensils shipped to the Toledo Museum of Art. There the room was re-assembled exactly as it stood for three hundred years in the Old World.

Stepping into it from the galleries of the Toledo Museum, the visitor goes in one stride from modernity to antiquity, the room being in a remarkable state of preservation and its furnishings arranged exactly as when the occupants of the "Villa Solitude" lived in it. Lighting effects installed behind the mellow-hued translucent window panes lend the illusion of bright Swiss sunshine flooding the low ceilinged nooks and glinting from the brightly colored tiles of the ornamental stove which is one of the room's outstanding features.

Interior alterations of the Toledo Museum, new arrangements of its gallery plan and the additional space made available by the $2,000,000 wings now completed, made it necessary to once again take apart, piece by piece, what was built and assembled so carefully and solidly in Switzerland three hundred years ago, and to move the ensemble to a location in the Museum's new west wing, where there also are numerous huge galleries devoted to the institution's great collection of paintings.

Moving of the Swiss Room was but one of hundreds of intricate changes made in the interior of what stands today as one of the finest, most modern, and most beautiful art museums in the country. Exhibition galleries now have more than two acres of floor space; the museum School of Design, in which tuition is free, has class and assembly rooms unexcelled in comfort and efficiency; the east wing of the edifice houses a 1,500 seat concert hall—designated as the Peristyle—which is absolutely unique in America; gallery space has been provided for unlimited expansion of the Museum's already vast collections, including one of the most comprehensive arrays of ancient glass in the world; the lawns and terraces of the Museum grounds have been landscaped on an entirely new scale to give the building's exterior an appearance fitting the classic beauty of its architecture and appointments, and other steps have been taken to unify in complete harmony the new additions and the original structure.

RESULT OF SPRING GARDEN SHOW COMPETITION

Harold G. Fowler, landscape architect and special student with the Division of Landscape Design at the University of California, Berkeley, was awarded first prize for his design in the Spring Garden Show competition in Oakland, the program for which was published in full last month.

The competition was open to professionally trained landscape architects and students of professional courses in California.

The Jury of Awards consisted of the following men:

Mr. Frederick N. Evans, M. L. A. of Harvard University, formerly head of the Department of Landscape Architecture at the University of Illinois, Fellow of the A. S. L. A., vice president of the Pacific Coast Chapter and for a number of years Landscape Architect for the city of Sacramento.

Mr. L. Deming Tilton, Fellow of the A. S. L. A. and president of the Pacific Coast Chapter, now engaged in the practice of landscape architecture and county planning in Santa Barbara and San Diego Counties.

Mr. Thomas Vint, member of the A. S. L. A., graduate of the Division of Landscape Design, U. of C., Chief Landscape Engineer of the National Park Service with headquarters in San Francisco.

Mr. Howard Gilkey, member of the A. S. L. A., graduate of the Division of Landscape Design, U. of C., Landscape Architect of Oakland and professional manager of the Spring Garden Show, Inc.

Mr. George Budgen, graduate of the Division of Landscape Architecture, Penn State College and at present engaged in the nursery business in Berkeley.

The competition was participated in by professional landscape architects located over the State and by students in the Division of Landscape Design, University of California, Berkeley.

The jury announced the following unanimous awards:

First award, $150—Harold G. Fowler, Landscape Architect, San Francisco, Calif. Special student with the Division of Landscape Design, U. of C., Berkeley.

Second award, $75—Arthur Cobbledick, Landscape Architect, Oakland, Calif. Graduate of the Division of Landscape Design, U. of C.

Third award, $50 — Vernon M. Dean, senior student, Division of Landscape Design, U. of C., Berkeley.

First honorable mention — Wm. Sharon Farr, Landscape Architect, San Francisco and Oakland, graduate of the Division of Landscape Design, U. of C., Berkeley.

Second honorable mention—Miss Geraldine P. Knight and Mrs. Willa Cloys Carmack, collaborating, landscape architects of San Francisco and the Peninsula, both graduates of the Division of Landscape Design, U. of C.

TWO NOTABLE STRUCTURES

Dedication of the new Law Building of the University of Washington, Seattle, January 6, marked a signal triumph for A. H. Albertson and associates, Joseph W. Wilson and Paul Richardson. The quarter-million dollar example of Tudor Gothic architecture is considered one of the best equipped and most modernly appointed law school edifices in the West.

Another building in the Northwest that is receiving much favorable comment is the new U. S. Marine Hospital, Seattle, designed by Messrs. Charles H. Bebb and Carl F. Gould.

PROVISIONAL CERTIFICATES

At a recent meeting of the State Board of Architectural Examiners, Southern District, the following candidates were granted provisional certificates to practice architecture in the State of California:

Herman Adolph Spackler, 5419 Poplar Boulevard, Los Angeles; Benjamin Louis Wiseman, 628 Union Oil Building, Los Angeles; Harold Newton Abrams, 3503 Park Boulevard, San Diego; Edward Warren Hoak, 1721 Bushnell Avenue, South Pasadena; Christian Eberle Choate, 2600 South Hoover, Los Angeles.

OAKLAND HOUSING NEEDS

A program of building which will provide 5,000 new single family homes in the next three years is justified by the analysis of data compiled by the Oakland Real Estate Board, according to a report by James H. L'Hommedieu, president.

This building program would release more than $10,000,000, L'Hommedieu said, would put the building trades to work again and would provide adequate housing for the 5,000 families who are now occupying apartments jointly with other families.

"With our population increasing by more than 3 per cent a year, our current building activity reduced to a negligible volume, and with the San Francisco Bay Bridge project promising 60,000 newcomers within a year after its completion, it is evident that a strong building program should be started immediately," L'Hommedieu said.

THE
FOUNDATION
PROBLEMS
in
San Francisco

Are described by a committee of distinguished engineers in a valuable book just published by the

SAN FRANCISCO SECTION
AMERICAN SOCIETY
OF CIVIL ENGINEERS

¶ No architect or engineer should be without this complete and dependable analysis of the soil conditions in the San Francisco Bay Region. Several years were consumed in compiling data and preparing this report.

¶ Copies of the book may be procured from the secretary-treasurer:

HAROLD B. HAMMILL
381 BUSH STREET SAN FRANCISCO

The price is
$6.00

ENCOURAGE MODERNIZATION

Revolutionary changes in architectural sales practice, with emphasis on better design, and modernization planning, will bring about revival of the building industry, Albert O. Larson of Minneapolis, secretary of the Minnesota Chapter of the American Institute of Architects, declares in a summary of the needs of architecture in 1933. He condemns the selling procedure now in use and asserts that "we, the architects, contractors and manufacturers have utterly failed in the emergency."

Mr. Larson maintains that co-ordinated effort, both by word of mouth and by printed advertisement, with the sole idea of creating the desire to build in the minds of the public would result in billions of dollars in building operations, as compared with what he describes as the present apathy. He points out that there are still many tasks waiting for the architect and the building industry, foremost among which he places the need of economically constructed houses for the workers whose salary is under $2,000 a year.

"Let us look at the picture," he says, referring to the sales machinery generally used by the building trades. "The architects sit and wait for the prospective builder; the contractors await the architects' call; all at a terrific loss.

"But that is only a tiny part of the panorama of lost motion. Thousands of building material salesmen calling as of old upon only the architects and contractors; millions of dollars spent in advertising aimed only at architect and contractor readers. And even the small amount of building material advertising in the popular magazines and newspapers still is written on the premise that building operations are going on unabated.

"What is the sum total? Millions of hours of time and millions of dollars spent now in exactly the same way as in 1928 and 1929; but only minutes and pennies spent on the idea of selling the potential spender what to build, when to build and—most important of all—the creation in his mind of the desire to build, whether it be a new structure or a few hour bit of remodeling."

Mr. Larson advises the building industry to turn from the "glory of the skyscrapers of 1928 and 1929" to a consideration of the smaller, but more timely, construction needs of the present as a means of giving work to the hundreds of thousands of jobless building mechanics.

"The hopes of private building operations in the form of large projects must for economic reasons be put aside for an indefinite time," he asserts. "In our mad expansion and in the tremendous building program, there has been little attempt to solve the housing problem for the great

masses of our population. Invention, science and all other progress has done nothing for the home comfort of millions of families except to give half our population the worn-out, cast-off living quarters of the other half.

"Our social progress has finally demanded that we give the poor man's child school accommodations comparable with those of the wealthier neighbor; but beyond that he has profited little. Slum clearance has been theorized over for forty years but it remains for the future to see it operative. But architects and manufacturers have already demonstrated that such housing is possible in a variety of forms. European cities are now in a sound, economic manner solving the housing problem.

"There are tens of thousands of other types of obsolete and depreciated structures which should be rehabilitated and modernized. Year by year we see both commercial and residential property shrink in value because of depreciation and obsolescence. With our face toward the sun we saw the great new skyscrapers towering toward the clouds as the only construction work worth while. Even today the building industry advertisements show mute evidence of the glory that was ours in 1929. But, shrinking values can be held stationary or increased by competent, intelligent modernization.

"Modern invention has so complicated man's mode of living and doing business that obsolescence moves on faster than ever in every type of building. Man has always been a builder and all our industry's forces must be co-ordinated to demonstrate again to the public that a better home, a better store or a better office is just as important as a new automobile or boat; and that building construction properly designed, well built and of good materials, is a good investment."

PRESERVE GOVERNMENT DOCUMENTS

The records of our Nation, rich in treasured volumes and historical documents, will be scientifically preserved and safely stored in the National Archives Building, now under construction at Washington, D. C.

The science of air conditioning is to play a paramount role in the preservation and safe keeping of these valuable records and papers.

A complete system of air conditioning and ventilation for the entire building, including administration offices, stack spaces and exhibition galleries, is to be installed.

The monumental structure, designed by John Russell Pope of New York, will be constructed of limestone. It will be situated between Sixth and Seventh Streets, facing Constitution Avenue with entrances also on Pennsylvania Avenue. The

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Some *people are saying that... today... with thousands of houses to be had for a song!*

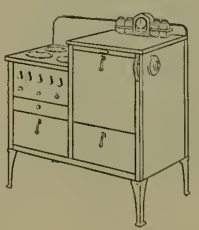
THE man who builds a house right now could buy an already completed structure for a lot less money.

Why, then, does he build? Because *none of the existing "bargains" has all the things he wants his home to have.* Isn't that true?

The electrical industry has been thinking a lot about that situation. How can it, along with architects and contractors and building supply factors cooperate in educating *more* people—just as soon as possible—to want the *new type* of home?

Maybe you've had the same question in mind. And maybe you have an answer. The Pacific Coast Electrical Bureau is interested in discussing such ideas with any individual or any group of building people. Visit, or write to, our nearest office.

Pacific Coast Electrical Bureau. A non-profit organization supported by all branches of the industry as an advisory bureau to serve *users of* electricity. 447 Sutter St., San Francisco, M-15 Edison Building, Los Angeles, 348 Roosevelt St., Fresno.



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Suppose in every wiring specification from now on, you provided for the most modern method of cooking—by electric range.

Your client would be saved rewiring expense.

His home would be more salable and worth more.

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It would help your client, yourself, and the entire building industry.

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A PROPERLY designed and well built building is a credit to any city and a worth while investment for its owner.

Such structures are the STANDARD OIL BUILDING, MATSON BUILDING, FOUR-FIFTY SUTTER STREET, STOCK EXCHANGE, S. F. BASE BALL PARK, MILLS TOWER, OPERA HOUSE and VETERANS' MEMORIAL and other notable structures — all built or supervised by —

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STANLEY SW

building which is to be five stories high, will contain twenty-one tiers of stacks, each approximately seven feet six inches high, on which the documents and papers will be stored and catalogued for reference. The basement will contain cleaning, repairing and bindery spaces, photographic rooms, storage and mechanical equipment. The present plans provide for a building occupying a floor area of 459,000 square feet, and containing approximately 4,000,000 cubic feet of conditioned space. Provision has been made to allow for expansion to 10,000,000 cubic feet as conditions and legislation may provide.

In no better place can a Nation's history and progress, its diplomatic relations, its business transactions, be recorded and made available for ready reference and use than in a National Archives Building, in which the numberless treasured volumes and valuable papers of its various departmental branches may be assembled.

The new Archives Building is to house papers which heretofore have been stored in any available quarters, such as rented structures, cellars and attic spaces, in many cases at considerable expense, exposing them to damage by the elements and loss by fire. Such valuable papers as Indian treaties, land grants, titles, committee reports, important letters and international documents, many of which had their origin before 1860, will be transferred to the Archives Building. Housed under one roof, they will be accessible for administrative and historical purposes. No longer will it be necessary for busy executives, secretaries, students of law, history and finance to search for papers in widely separated quarters.

Truly an efficiency measure as well as a monumental edifice, it represents the cumulative efforts of a movement long fostered and proposed by a number of far sighted individuals. As a matter of fact, a program for a national archives building was submitted for legislation as early as 1912.

Even when the building was first proposed, the essential elements of preservation were considered —those elements which now constitute the fundamentals of a modern air conditioning system. In a report of October, 1912, appearing in the American Historical Review, we find the following citation: "The ventilation and heating of the stacks must be such as to insure an abundance of air and an even temperature, avoiding dampness on the one hand and too dry an atmosphere on the other. These considerations are most important for the preservation of the archives and cannot be neglected without disastrous results."

Today, the science of air conditioning which has been applied successfully and profitably to numerous industrial processes and human comfort

applications, finds a new role in protecting national records from damage by the elements to insure their safe keeping for generations and centuries.

A personnel of over 1800 will enjoy the comforts and health of an invigorating atmosphere provided by a modern system of refrigeration and air conditioning, for all spaces are to be made comfortably cool in summer as well as healthfully tempered and humidified in winter. The musty odors, common in libraries where books have been stored for years, will not be present in this new structure. The system has been designed to purify the air and remove all traces of dust and disagreeable odors.

Seven complete air conditioning systems, all under automatic control, will supply 315,000 cubic feet of conditioned air every minute to the various sections of the building. The air will be filtered, washed and purified in each of these mammoth conditioning chambers, and distributed by fans and ducts to every portion of the structure. The system has been designed to automatically maintain an even temperature and constant humidity the year round, regardless of changing outdoor conditions, for the primary purpose of preserving the papers. As a part of the system, equipment is to be installed which will remove all traces of sulphur dioxide gas from the air delivered to the various spaces. Although the fact is not usually considered in general air conditioning work, such as in theaters, department stores and other human comfort applications, scientific investigation has found that the smoke laden air and gases in our cities, produce an appreciable percentage of sulphur dioxide gas in the atmosphere. Although the percentage of this gas in the atmosphere is relatively small, it has been found to have a decided deteriorating effect upon papers and books, causing them to turn yellow and crumble with age.

NINE DOLLARS FOR MASONS

An agreement among themselves to pay their bricklayers $9 a day has been signed by the leading bricklaying contractors of Oakland and the East Bay. This is the scale fixed by the Impartial Wage Board last October and adopted by the East Bay Industrial Association.

The bricklayers' union has been trying to maintain a wage of $11 a day.

PENINSULAR NEW RESIDENCES

New work completed in the office of Willis Polk & Company, 277 Pine Street, San Francisco, includes a Colonial residence in Hillsborough for H. L. Clary and an English home in San Mateo for C. C. Young, the latter house to cost in the neighborhood of $30,000.

HAWS

Model 5C Drinking Fountain in brown was installed in the offices of Dean Witter & Company, Porter Building, Portland, Oregon, of which Kent & Hass were the architects.

Model No. 5C

HAWS SANITARY DRINKING FOUNTAIN CO.

1808 Harmon Street, Berkeley

MODERNIZING

By providing a CUTLER MAIL CHUTE. A building however old fashioned in other respects can be made as modern in mail service as the latest skyscraper. What the tenant wants is not so much something to look at as something to use in the transaction of his business.

Full information, details, specifications and estimates on request.

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CONTINENTAL BUILDING SPECIALTIES, Inc. Los Angeles, California
D. E. FRYER & COMPANY, Seattle, Washington
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[*Acid Resisting Iron*]

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Quick Clean Economical
Gas
the modern fuel

Satisfies owners . . .
. . . pleases tenants

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Worked out the solution of an
ARCHITECTURAL PROBLEM
And want patent protection for the same, write me for an opinion on the probable patentability and an estimate of the cost.

J. KAPLAN
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Registered Patent Attorney

REPORT ON MECHANICS LIEN ACT

A REPORT has been submitted to the Secretary of Commerce by the Standard State Mechanics Lien Act Committee of the U. S. Bureau of Standards on the standard act, drafted after eight years of study. According to the report of the committee it has "endeavored to safeguard the interest of the owner at every step, and at the same time to accord to the contractor, the subcontractor, the materialman and the laborer a facility for filing and proving their liens so as to insure security to them upon the real property for which their work or materials were furnished or upon a bond substituted for it."

In a statement given out in making the report public the Department of Commerce says:

"The Uniform Act provides for an informal procedure, which conforms largely to modern business practice in the construction industries, in order that the parties involved may adjust any difficulties that may arise without resort to the public record. A lien action is not a friendly act and its avoidance is advantageous to all parties through the saving of expense, delay and annoyance, the preserving of business reputation, and keeping titles clear of lien clouds."

The statement calls attention to the following paragraphs in the committee's report:

"The drafting of legislation of this character is always complex because of the numerous and diverse interests which it affects. Throughout the long course of such legislation in the United States, many types of laws have been enacted, some discarded, and all frequently attended, most of the amendments being the result of efforts by a particular group or groups seeking more thorough protection. This has inevitably resulted in acts under which undue advantage accrues to one or more groups at the expense of others.

"This committee, which included representatives of virtually all of the interested groups, with an opportunity not previously afforded to any other body, has attempted to arrive at that equitable point at which the interests of all groups, as nearly as is possible, may be equally subserved. The committee considers the agreement that has been reached upon this draft Act to constitute a distinct forward step in the field of this type of legislation.

In expressing his appreciation of the public service rendered by the committee the Secretary of Commerce declares, "I believe that you have made a real contribution to the movement for greater uniformity in state laws affecting the conduct of business, a movement which has been gaining pace over a period of more than 40 years, and particularly during the last decade. Under our present economic system where commercial

transactions, even those in the field of construction, are carried on over great distances, haphazard variations in legislation should be minimized, and the advantages of uniform legislation more generally appreciated. Business should not be hampered by having to operate under many differing state laws, where there is no substantial foundation, either in local conditions or public attitude, for the diversity. A growing recognition of this fact is undoubtedly back of much of the widespread interest in the Uniform Mechanics' Lien Act."

The draft of the proposed Act has the approval of the National Conference of Commissioners on Uniform State Laws and the National Bar Association.

General Principles of Act

The committee which drafted the measure outlines the general principles of the proposed Act as follows:

1. A lien on real estate is provided, as generally in prevailing statutes, for a contractor, a subcontractor (including a subcontractor of a subcontractor but not one more remote), a materialman, a laborer; and in addition such right is accorded an architect, landscape architect, and engineer, for preparing plans for a building actually constructed or for supervision.

2. In accordance with the weight of statutory authority in this country, the lien dates from the visible commencement of building operations.

3. The liability of the owner, provided he complies with the act, is limited to the contract price.

4. Lien claimants whose claims are derived through the contractor, i. e., subcontractors and materialmen, may, by an informal notice provided for by the act (without a resort to the formal record claim of lien), require the owner to retain funds in his hands for satisfaction of claims. If, however, the debt is not paid pursuant to said notice, a formal claim of lien must be filed for public record according to usages now prevailing. Laborers are accorded similar protection without the necessity of such an informal notice, but, if not paid, must file the formal claim of lien to subject the real property to liability.

5. Priority is given (after a first priority to laborers) to those who give the owner their informal notices while still rendering services but within 30 days of beginning to do so, but those not giving such notices are not deprived of the right thereafter to file for record a formal claim of lien.

6. Though he is not required to do so, the owner may, as the work progresses, make payments to laborers at any time without requirement of the aforesaid informal notice; to claimants who give that notice within the limited time, provided

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enough money is in hand to satisfy laborers, and lienors previously giving notice within the limited time; and he may make such progress payments to lien claimants who give such notice after the limited time or who do not give such notice, provided he retains sufficient funds to cover amounts due all laborers and amounts included in notices previously or thereafter given.

7. Among lien claimants, liens are decreed within the unpaid remainder of the contract price with the following priorities: (1) To laborers; (2) to claimants giving the informal notice within the limited time; (3) to other lien claimants except the contractor; (4) to the contractors. Liens are satisfied from funds available for the purpose as follows: (1) To laborers, pro rata; and (2) to all other lienors, pro rata.

8. The owner may relieve his real property of liability for liens by requiring a bond of the contractor; the order of priority of claims and their satisfaction in such case being determined according to the lien machinery as set up in the act.

9. Penal provisions are made for owners who, with intent to defraud, use proceeds of loans on real estate secured for building enterprises for purposes other than the satisfaction of lien claims, and for others, as contractors or subcontractors, to whom such funds are paid and who use them for other purposes while lienable debts are unpaid, and for intentional misstatements made by the contractor in the statement required by subsection 3 of section 4 with reference to the amount of the contract price unpaid.

10. An owner, contractor or subcontractor must, in making payments to a party with whom he has a number of accounts, specify the account to which the payment must be applied or suffer the loss that may arise from misapplication of the payment. Conversely, when a materialman or subcontractor receives payment for materials, he may demand a designation of the account to which it must be applied.

11. Materials delivered but not used on an improvement of real estate may be repossessed by one furnishing the same; such materials ordinarily not being attachable for debts of the purchaser.

12. Where an improvement on land is made at the request of one not having title to said land, the improvement is liable for liens and may be removed if practicable.

13. Where an improvement is ordered by a husband or wife when they live together, the other having knowledge thereof is bound unless he or she makes written objection thereto within 10 days.

14. Insurance proceeds received from an improvement are subject to liens for which the real property is liable.

15. Forms are provided for the informal notice hereinbefore mentioned, the bond to relieve the land from liability for liens, and the formal claim of lien to be recorded.

16. Claims for more than one improvement on a single tract may be combined in one notice, and for improvements on several lots in one operation the total amount may be apportioned to each property; they may be amended where detriment is not caused to another; and they may be assigned in writing after being filed.

17. Copies of claims of lien as recorded amendments thereto and assignments thereof must be served on the owner by personal or by substituted service according to a procedure set forth in the act.

18. Liens filed for record take priority over a conveyance or other encumbrance not recorded or docketed at the time of the visible commencement of operations.

19. A lien endures for one year after recording, during which time suit must be started to enforce it; and liens may be discharged of record in several ways prescribed by the act.

20. The owner may relieve the real property of the burden of a recorded lien by filing a cash deposit or a special bond, in which event the liability of the real property for the lien is transferred to the substituted security.

21. Copies of the contract may be demanded of the owner or contractor by any one employed to furnish work or materials, and the owner may demand of any such person a statement of his account.

22. Acceptance of unsecured notes for labor or services or for materials is not a waiver of the right to claim a lien therefor; and the lien remedy does not preclude the enforcement of the claim in an ordinary law action.

23. Other procedural provisions are those giving the right to consolidate all actions on lien claims into one action; the right to proceed against one personally liable, in addition to proceeding against the real property; the right to a deficiency judgment against the defendant where the real property is insufficient; and the optional provision for redemption from sale for those jurisdictions where redemption from mortgage foreclosures are permitted.

24. Formal provisions, common in all uniform acts prepared by the National Conference of Commissioners on Uniform State Laws, are: That making the act inapplicable to enterprises underway when the act becomes effective, which effective date is fixed; those providing that the act be liberally construed, and so as to effectuate uniformity; that fixing a short title; the "severability" clause, to save the remaining parts if some parts are held unconstitutional.

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PATENTED ARCHITECTURE AND BUILDINGS

Substitute for Marble

Anthony M. Zottali, Quincy, Massachusetts, has been granted a patent for manufacturing a building material in sheet form to be used mainly as a substitute for travertine or Italian marble for the construction of walls and for other portions of buildings.

The invention comprises a building product in sheet form provided with a plastic surface having a characteristic appearance imparted to it by the formation of cavities of irregular shape and of varying size, preferably arranged to appear like travertine or Italian marble, in veins extending across the surface of the material. The cavities are formed in the plastic material by gas generated in the upper portions of the plastic material adjacent the surface thereof.

The base of the material, preferably of a fibrous nature such as fibrous wall board, may be readily attached to a building structure to provide a wall or other surface having the artistic appearance of travertine or an Italian marble. The cavities in the surface resemble closely the natural porosity of the surface of genuine travertine.

New Floor Construction

Paul G. Heidman, Detroit, Michigan, has a new method of floor construction, whereby a durable upper layer may be mounted on a non-yielding base and a resilient floor provided. The invention is particularly adaptable in use in mounting on a base or slab formed from concrete or other similar material, an upper wearing surface formed from concrete or the like and so mounted on the base as to be yieldable.

On the usual concrete base is spread a coating of hot asphalt while the asphalt is in its plastic condition. A layer of fibrous material is then applied to the asphalt and on top of this layer is

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spread a waterproof coating of asphalt or the like. On top of this is poured a top cover of plastic or concrete material which forms the wearing surface.

* * *

Non-Fading Asbestos Cement

This invention, patented by William J. Moeller of Mount Healthy, Ohio, is for an asbestos cement building material which will not discolor or fade after exposure to the weather.

The inventor has discovered a process of manufacture in which the hydraulic cement, asbestos and water are first mixed to form a homogeneous mass which is spread over a support, forming a mass of even thickness, and then mineral particles or granules of one or more colors are irregularly applied to a portion of the surfaces of the wet mass. He then, by removing a portion of the moisture, forms on a cylinder a series of laminations, the first lamination being formed with that portion of the mass upon which the granules have been placed so that the granules are in contact with the cylinder. The laminated sheet, after the desired number of laminations are formed, is then removed from the cylinder and placed on a flat surface so that the mineral particles are on top. This sheet may then be cut or trimmed to desired size or form and then cured in the course of which the adjacent plies become so intimately amalgamated that a relatively integral sheet is formed. This produces a product in which the surface has a plurality of colors, formed by irregularly shaped and irregularly arranged particles separated by areas of asbestos cement arranged in minute planes at various angles to each other, so that the result is an uneven surface. The areas between the mineral particles consist largely of elevations and valleys, in which the elevations are like the apex of a cone. The result of this surface formation is that the irregularly shaped and irregularly arranged, with respect to the plane of the surface particles, are held

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in the product so that a portion of a particle is exposed and gives an area of the color of the granules, while the asbestos cement forms uneven areas, between the granules, of different color to the granules. This construction affords areas of asbestos cement between particles or granules of mineral that by reason of their surface formation permit free lime to arise to the surface of the areas, form a film over same and remain there until washed or weathered away by exposure to the weather. This free lime film by reason of the minute hills and valleys in the areas of asbestos between particles or granules of mineral remains in the valleys and covers only the areas of asbestos cement without flowing over the mineral of different color and as a result, the product retains the color of the mineral particles in contrast to the asbestos cement areas coated with a film of free lime. As the asbestos cement in its natural color and the free lime are about the same shade, the film of lime on these areas is not objectionable.

* * *

Metallic House Framing

Herbert Ridgway, Brooklyn, New York, has been granted a patent for metallic house framing. The frames can be made up in standard units, according to pre-design factory specifications and may be easily erected by moderately skilled labor. The invention also involves the use of a minimum number of frames and separate pieces of light weight and maximum strength.

The walls are of the skeleton type made up of a plurality of rows of frame units with a number of frame units in each row. Each frame is formed of channel irons with the webs at the outside and perpendicular to the plane of the unit and with the flanges parallel to the plane of the unit. The vertical sides of the frame units constitutes studs, each stud comprising the adjacent channel irons of adjacent frame units, the studs

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of the upper row of units being in alignment with the respective studs of the lower row of units. The floor beams have their ends secured to and between the respective lower and upper studs.

* * *

Lighter Concrete for Bridges

Karl P. Billner of New York, New York, an invention relating to concrete bridges, the main object of which is to reduce the cost of construction without impairing the strength of the structure. The inventor claims he is able to make a concrete bridge of not more than half the weight of that now required for equal strength, and for less money.

A filling material is utilized in the construction of the concrete bridge of a porous nature. This material is a form of concrete, the major bulk of which is composed of pores or cells, so that the weight is less than half as much as earth, for example, for the same cubical contents. The filling material is self contained and practically non-absorbent to water, so that there is no hydrostatic stresses to be taken care of and in consequence the usual side panels of a concrete bridge may be omitted, thus further reducing the weight.

By using this type of filling material a practically monolithic structure is obtained, consisting of concrete in part for the wearing surface and an interposed monolithic filling of porous concrete for the non-wearing portion of the bridge.

The structure consists mainly of a solid concrete arch bridge comprising a solid concrete arch and having a wearing surface of solid concrete above the arch and an interposed monolithic filling of light weight porous material between the concrete arch and the wearing surface.

* * *

Further particulars regarding these patents may be obtained by addressing J. Kaplan, Washington Loan & Trust Building, Washington, D. C.

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1933 TO MARK TURN

By A. E. DICKINSON
President, Indiana Limestone Company

Looking ahead, 1933 promises to mark the turn to a new period of construction activity.

A reservoir of building requirements has developed over three extremely dull years in the construction industry. If history repeats itself, the pendulum will swing far in the other direction once the revival has set in.

In order to visualize the falling off in building, the totals for the nation for each year, beginning in 1925, are enlightening:

1925	$6,664,935,314
1926	6,530,470,453
1927	6,871,661,253
1928	7,232,246,849
1929	6,282,694,491
1930	4,930,739,914
1931	3,457,524,605
1932	1,500,000,000

Leaders of the building industry, and economists who have studied trends covering a long period of years, have all sought to determine when the upturn will develop. It is now felt that at the first signs of industrial activity being revivified and with a genuine strengthening of the investment market, the building tide will turn, and that replacement will require an extended period of activity.

Housing space has developed an acute shortage in these three years. The extent of this shortage, some of it due to obsolescence and decay, would be painfully apparent if the hundreds of thousands of families now doubling up with friends and relatives, were to regain employment and begin spreading out in individual homes.

All authorities expect residential building to mark the beginning of the new cycle.

It is the history of the building industry, however, that once a revival sets in, regardless of the branch of the industry affected, activity is almost invariably re-

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newed at once in all branches of construction and the industry is strained to meet demands. If this were ever overcome it would be a tremendous stabilizer of employment.

Under the current Federal building program, approximately $200,000,000 of construction work will be done in 1933. About one-fifth of the total is allocated to New York City.

There is every sound reason to believe that the building industry has passed through the most tragic year it has ever known.

HOOVER DAM NOTES

When the Bureau of Reclamation begins its purchase of 4,000,000 barrels of cement for the mass concrete in the Hoover Dam, hundreds of men will be given employment in near-by cement plants which will run to capacity for two years in order to supply the demand.

Six Companies Inc., has constructed 703 buildings at Boulder City at a total cost of $1,130,000. These buildings comprise 16 dormitories, 10 four- and five-room cottages, 136 three-room cottages, 264 two-room cottages, 250 one-room cottages, 1 executive lodge, 2 residences for general superintendent and insurance supervisor, 1 commissary, 1 commissary warehouse, 3 general warehouses, 2 office buildings, 1 machine shop, 1 hospital, 2 garages, 1 clubhouse, 1 laundry, 3 mess halls and mess-hall dormitories, 1 nurse's residence, 1 doctor's residence, 1 cold storage building, 1 carpenter shop, 1 schoolhouse, 1 railroad and gravel plant shop and warehouse, 1 warehouse addition and office, 1 warehouse for Government material. Nearly all of these buildings are located in Boulder City.

Thirty small houses from the famous "Olympic Village", used by Olympiad athletes in Los Angeles last year, have been moved to Boulder City and will help to

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solve the housing problem. Each house has two rooms and a bath.

In manufacturing 1,000 cubic yards of concrete for the diversion tunnel lining, the Canyon mixing plant used approximately 1,330 barrels of cement, 1,213 tons of gravel, 532 tons of sand, and 22,500 gallons of water.

THE HOUSE OF THE FUTURE

What is claimed to be the home of the future, built of new synthetic materials, air-conditioned and humidified, fitted out with the latest labor-saving equipment, utilizing every foot of space, including the roof for the comfort of its occupants, decorated, furnished and illuminated in modern fashion, will be demonstrated at Chicago's 1933 World's Fair—"A Century of Progress Exposition."

A group of exhibit houses utilizing many of these advances will be one of the features of the exhibit. Already applications for the construction of houses have been made by a number of firms. In addition a large number of producers of home equipment of all kinds will display their products. A pavilion devoted to air-conditioning, building materials and equipment and another pavilion featuring the decorative arts are planned.

:: :: ::

BUILDING INVENTORIES

The National Conference on Construction has issued a full report of fifty-seven pages entitled, "Local Construction Inventories." This report contains two sections under the sub-title, "General Statement", and "How to Make an Occupancy Survey." The report also contains statistical and trade information, business reports, etc.

This is the first document made public by the National Conference on Construction, an organization comprising leaders in all branches of the construction industry.

The report is not considered as final. It is anticipated that a model survey will be made at an early date in one of the large cities to demonstrate the practical working of such a program.

HAS LICENSE SUSPENDED

William E. Coffman, architect of Sacramento, who designed the new $300,000 Stanford Junior High School and several other structures in the Capital City, has had his license to practice architecture suspended for thirty days because of "dishonest practice."

The suspension was ordered by the State Board of Architectural Examiners of the Northern District and will be in effect until March 6th, inclusive.

The order followed a hearing in Sacramento, January 24th, when Miss Nelle U. Branch, librarian of Davis, Yolo County, charged that "besides general negligence, substitutions had been made throughout the construction of her home in College Park, thereby cheapening the building and rendering it unsafe."

Fifteen separate charges were lodged against Coffman.

CONCRETE PUMP

The Chain Belt Company of Milwaukee has issued a folder illustrating Pumpcrete, a concrete pump and the Rex Go-Devil, a concrete pipe cleaning device, which chases the concrete through the entire pipe line.

Full information regarding these two labor and time saving devices may be had by communicating with the above company.

MORAL — EMPLOY AN ARCHITECT

The president of a New England mortgage company is authority for the statement that his company lost more money on buildings built without complete architectural service than through all other sources.

ENGINEERS' DAY

Seventh Annual Engineers' Day will be held at the
UNIVERSITY OF CALIFORNIA
CAMPUS, BERKELEY
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▼

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MARCH 1933

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Edited by Arthur T. North

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• • • The original unit of the school building pictured above was built in 1919 and heated by a "direct blast" system. Johnson automatic heat regulation was installed to operate mixing dampers at the double plenum chamber, mixing hot and tempered air as required for each room.

In 1926 and 1927, the first and second additions were constructed and are heated by means of a "split" system. Johnson apparatus controls the direct radiators in the rooms and also maintains a uniform temperature in the ducts supplying air for ventilation. The original heating plant was not disturbed.

The third addition, 1929, is heated and controlled in the same manner. When this addition was built, the heating system in the original unit was changed to a split system, and the same Johnson thermostats were arranged to control the new heating apparatus.

In 1932, unit ventilators were installed in the fourth addition. Again the Johnson System was employed, this time to control valves and dampers in the unit ventilators, together with valves on the auxiliary radiators.

FIVE BUILDING PROJECTS :: THREE METHODS OF HEATING
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Thumb Tacks and T-Square

THERE should be a conserted movement on the part of San Francisco contractors and building material companies to secure all contracts on the new Bay bridge. It would be a calamity to the community to have these contracts go to outside firms. Local industries pay taxes and insurance and employ resident help which means they are entitled to preference over outside firms. Great quantities of steel, cement and lumber will be needed and we are as well equipped to supply these materials as Eastern firms. The steel fabrication could be distributed around to the six or more steel companies in San Francisco whose plants are at present practically at a standstill. We fail to see where the billions of dollars to be put into the construction of this bridge will benefit the Bay region unless San Francisco and Oakland firms are given some consideration. A Eastern firm might be awarded the bulk of the steel contract conditionally that it sublet to local shops. Some such plan would work untold benefits to Northern and Central California. Since the above was written the Columbia Steel Company of Pittsburgh, California, has submitted low bids on two bridge units which is most gratifying.

With reference to further assistance from the Reconstruction Finance Corporation, (in addition to the bridge) Charles F. Abbott, executive director of the American Institute of Steel Construction, stated while on a visit to this city recently, that "only a small portion of the $1,500,000,000 made available has been loaned, because of the very strict interpretation by the Corporation's counsel of the term self-liquidating." Mr. Abbott stated the acute unemployment situation demanded that more jobs should be provided and something should be done to make the Federal funds available to start utilitarian public works wherever they may be needed, or such public works as may be refinanced, even though they may not be strictly classified as self-liquidating.

⁘ ⁘ ⁘

THERE seems to be a concerted movement all over the country to recondition, remodel and modernize buildings that have shown signs of obsolescence. With no immediate prospects of new construction work of any importance, except public work, architects should do all they can to stimulate reconditioning and modernization. The California State Association could spend some of its money advising the public of the possibilities of remodeling, explaining the present low cost of such improvements and showing the owner how much better his chances are of renting his property if it is put in uptodate condition.

Joseph D. Leland, a Boston architect, has written a letter to President Russell of the Institute, urging that organization to appeal to Chapter members to join in a united movement for the encouragement of small alteration work. Most architects appear to take little interest in the matter. We quote here from Mr. Leland's letter, which by the way, has been indorsed in toto by Mr. Russell:

"It seems to me a great deal of educational work is necessary, and why shouldn't the architects be the practical educators and advance a program to property owners, impressing upon them the personal and self-interest advantages attached to proper maintenance, remodeling, alterations, etc. I feel that there is a great opportunity for the architects throughout the country to cooperate, especially at this time, in reconditioning, remodeling, and modernizing. If the architects could be made to feel that no matter how small a job is—even if they are only called in for one hour of consultation and paid five dollars—if their advice is good and produces results, they would soon find that their client would return for further advice, and eventually the same client might employ the architect on new work of greater magnitude.

"I remember a story that Mr. Brown of Minneapolis once told me of a farmer who lived some distance away and who came into his office in connection with some plans for a small house. He took a lot of Mr. Brown's time, Brown was agreeable, and interested, and the farmer left his office satisfied. A few years later the same farmer became one of Brown's best clients because of his influence in the affairs of the State in which he lived, and as I remember the story, Brown said that his office received a commission for a large public building through the courtesy and interest which he had extended to this man.

"It is my humble opinion that it is of great importance for the members of our profession to cooperate in their localities with the many emergency organizations or community groups which have been established in so many cities and towns to relieve unemployment, by stimulating reconditioning, remodeling, and modernizing. Would it not be quite worth while to give a portion of their time and advice where it is sought? The general public does not really know the services performed by the architectural profession, and a large majority think an architect is an aesthetic individual who draws pretty pictures which always cost twice as much to execute as he says they will."

⁘ ⁘ ⁘

FRANK LLOYD WRIGHT is quoted in the newspapers as having said:

I'm not what you'd call a modest man, I can build anything from a chicken coop to a cathedral. But I prefer building houses.

* * *

The home of the finest architecture in America is the stretch of scenery between here and New Mexico.

* * *

A woman is the greatest architect. Her name is Nature.

* * *

Radio City is the tomb that marks the end of an era. Walter Lipman called Radio City a colossal pedestal for a peanut.

* * *

Skyscrapers are doomed. They are neither practical, economic or genuine expressions of the age. They are vainglorious, misdirected efforts, built by ambitious architects for ambitious tenants. Their day is past. Only blundering exploiters will continue to build any more.

⁘ ⁘ ⁘

AN article on another page in this issue, furnished by the U. S. Department of Commerce, on "Building Cost Reductions Seen in Radically Novel Wood Assembly Methods", is of particular interest to architects, since this new construction system involves economy, opportunity for improved wood design, and slenderness and elegance in wood structures. A forthcoming report on the subject is sponsored by a special committee appointed by the Secretary of Commerce. The American Institute of Architects is represented by F. Leo Smith, Technical Secretary of the Structural Service Department of the Institute.

N. Max Dunning, F.A.I.A., of Chicago, has shown a deep interest in this work, and has authorized the following statement:

"Modern connectors for timber construction broaden the opportunity for architectural consideration of wood, since slenderness of design is characteristic of this system."

LOS ANGELES EARTHQUAKE EMPHASIZES NEED OF BETTER DESIGN AND MORE STRINGENT BUILDING CODES

THE lesson of the Los Angeles earthquake, as it was of the Santa Barbara earthquake, is that only flimsy buildings of haphazard structural design go down before the temblor.

One has only to look at the photographs of the buildings wrecked in Long Beach and Los Angeles — thin walls, with little or no support derived from structural design. These are obviously cardboard buildings. From some of the pictures it is plain that a Missouri mule would have to kick only a trifle harder than he does to bring down the wall of such a building. Certainly a runaway automobile could do it.

On the other hand the lofty tower of the Los Angeles City Hall, rising 428 feet in the air, though it did bow like a dancing master before the shock, came through the trial uninjured. Plaster may have fallen, but it does not take much to make plaster fall.

No really sound building suffered, either in the Los Angeles shake or at Santa Barbara. No sound building suffered in the San Francisco earthquake, from the earthquake. San Francisco's down-town skyscrapers were burnt out by the ensuing conflagration, but they had only to be cleaned out and refinished inside to be as good as ever.

Even very old type buildings, when soundly constructed, came through unharmed. A striking example is St. Mary's Cathedral in San Francisco, which, though to all intents and purposes nothing but a vast shell, was undamaged by the 1906 earthquake. That was sound design and construction.

On the other hand, the Mission Church of San Juan Capistrano, fifty miles south of Los Angeles, which was built by amateurs, was brought down by the earthquake of 1812 and forty persons killed.

AN earthquake of unusual intensity shocked Southern California at 5:40 P. M., March 10th. Damage amounting to more than $60,000,000 is reported to have been done and upwards of 150 lives were lost. Poorly designed buildings were badly damaged. Structures planned to resist earth stresses held up well. The fire loss was surprisingly small, being confined to an occasional school building outside of Los Angeles proper.

Sound design and construction stands up. After the Santa Barbara earthquake there was a general movement in this State to strengthen building codes. It is now stated that the damage in Long Beach March 10th was much less than it would have been had it not been for better buildings since the Santa Barbara lesson in 1925.

Yet it is apparent from the Los Angeles county catastrophe that there is still too much flimsy construction. Buildings are still put up to sell, or to rent, for quick profits, not to be proof against shock. The public is entitled to be protected from such construction.

Now, with this lesson fresh in mind, would look to be a good time to strengthen the building codes to make sure that they will not permit public death traps to be erected.

—*San Francisco Chronicle.*

Architecture — and Trees

¶ The architect's problem in home planning is very often that of conserving and preserving the trees on the proposed site without depreciating the beauty of his architectural plans.

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Cover Picture SAN FRANCISCO SKYSCRAPERS
A Painting by Edward Bruce

Frontispiece ARIZONA END OF SUSPENSION BRIDGE, HOOVER DAM PROJECT, BOULDER CITY
Etching by William Woollett

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Next Month

Three California architects have received Honorable Mention for designs submitted in the annual small house architectural competition conducted by the Better Homes in America. Pictures of the prize winning homes will accompany a special article by one of the officers of the organization that sponsored the contest.

Elmer Grey's interesting series of articles on "The Vicissitudes of a Young Architect" will be continued, as will the series of drawings and sketches by the late John Galen Howard.

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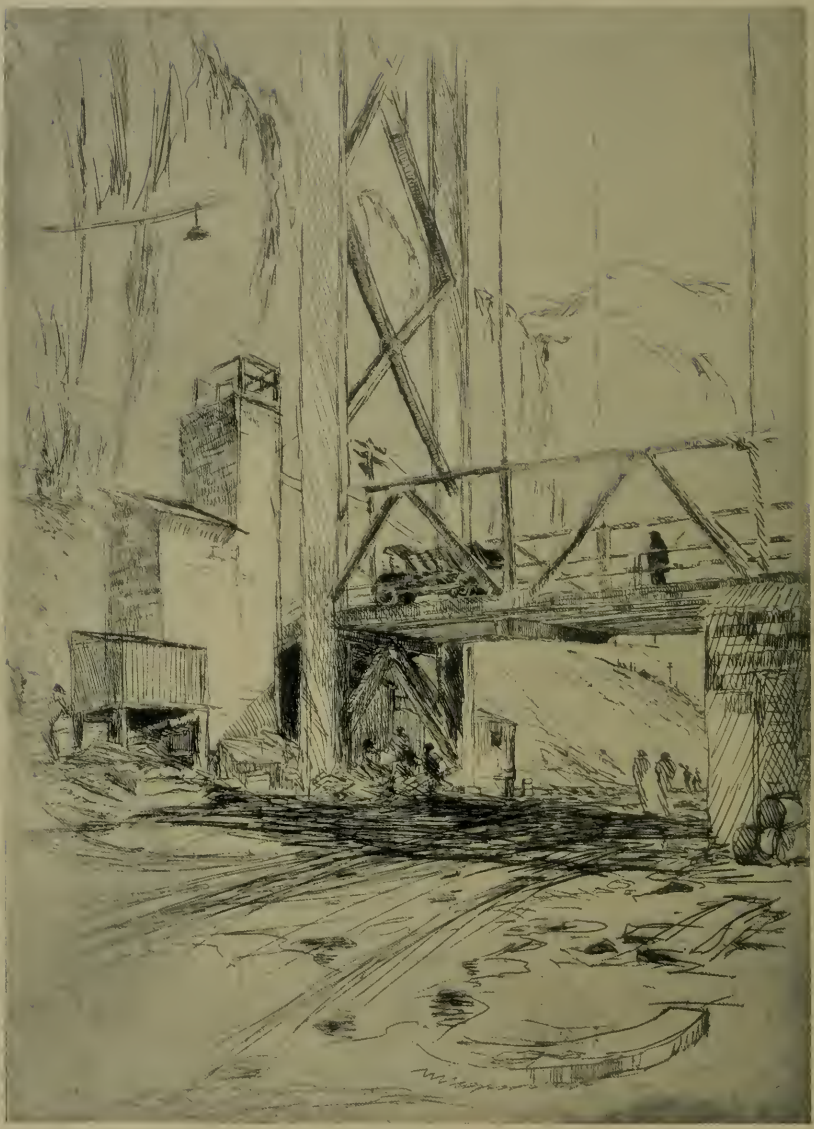

ARIZONA END OF SUSPENSION BRIDGE, HOOVER DAM PROJECT, BOULDER CITY

ETCHING BY WILLIAM WOOLLETT

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MARCH 1933
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NUMBER THREE

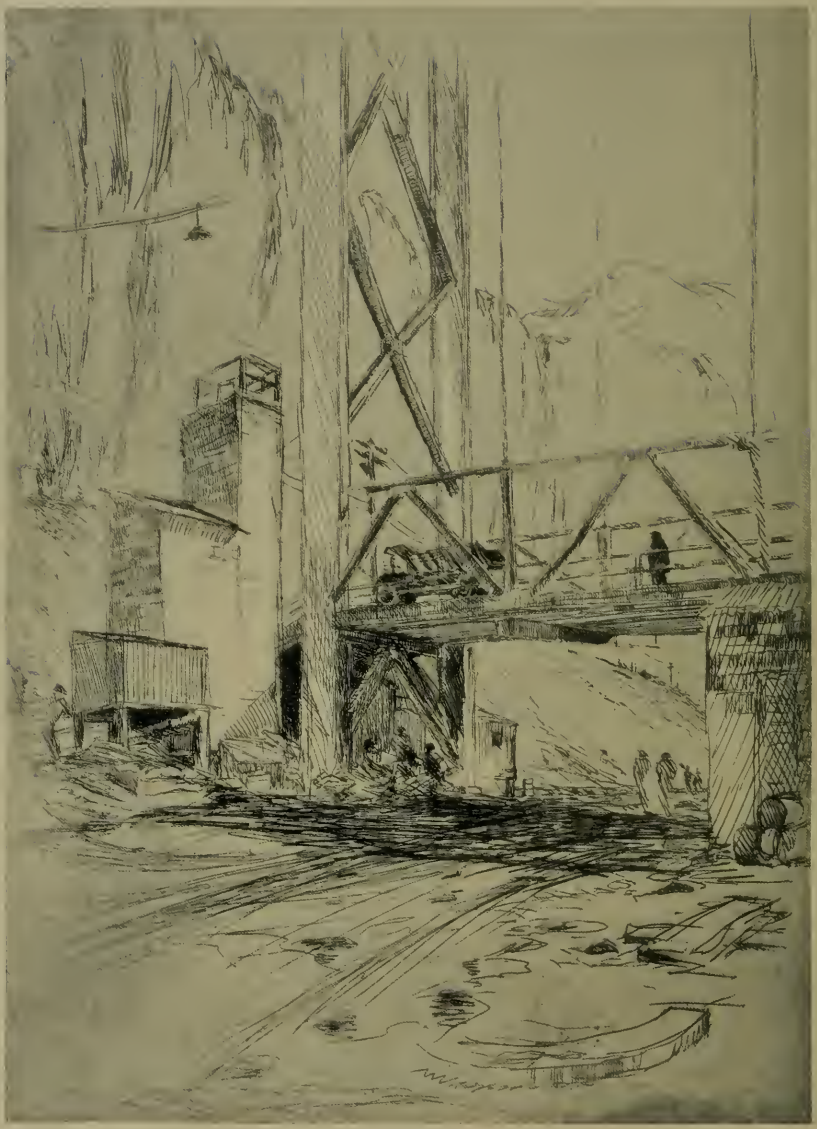
LANDSCAPE ARCHITECTURE AND SUBDIVISION

by
RALPH D. CORNELL, F.A.S.L.A.

THE profession of landscape architecture, itself young as compared with its allied professions, has developed as the result of a definite demand for specialized training not otherwise provided. This need for a new profession gradually became apparent as it was recognized that the other professions did not, in themselves, carry the various projects of land development to their logical and ultimate conclusions of completeness. Although the architectural designing of buildings might be skillfully handled to its last detail, the engineering done with all the exactitude demanded of that profession and the planted shrubs and trees purchased from the finest stock obtainable, there would still be something lacking in the finished picture unless all the functional purposes and uses of the property had been well coordinated and unless it had all been done with as high a degree of aesthetic value as its economic and physical potentialities might permit.

BEVERLY HILLS, SHOWING UNIFORM TYPE OF STREET PLANNING

The profession of landscape architecture thus developed as the "art of fitting land to human use and enjoyment." This definition, so aptly expressed, is one officially accepted and given forth by the American Society of Landscape Architects. In reality the landscape architect finds himself in the position of one who must work appreciatively and understandingly with those of the different professions and trades, in a way properly to co-relate



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the various elements that go into the general landscape composition. He must be trained in aesthetics, in matters of composition and design, — but equally must he understand the practical problems of topography and engineering, of grading and roadbuilding, of irrigation and horticulture and the various types of construction that enter into the general field of landscape work. He works with ground forms, with plant materials, with masonry and architectural structures. He uses the sky as a backdrop, the sun as his spot-light and constructs the "set" to the best of his ability, external and personal limitations considered.

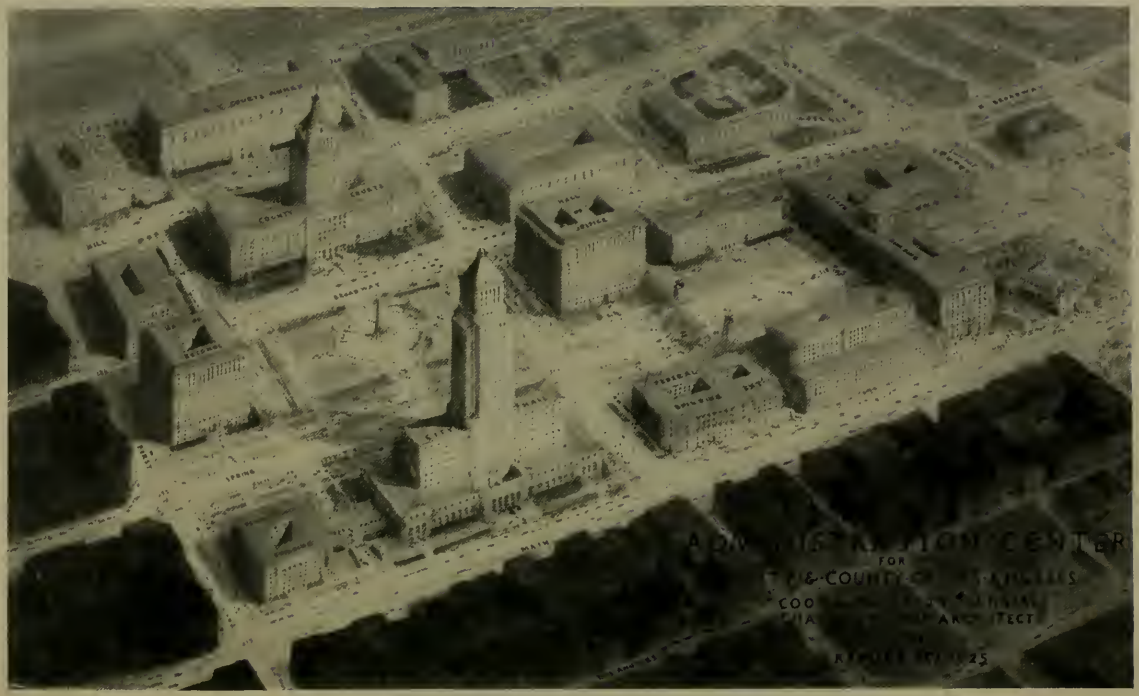
GENERAL PLAN FOR BEVERLY HILLS, WHICH HAS BEEN CLOSELY FOLLOWED AS WILL BE NOTED BY REFERRING TO PHOTO ON OPPOSITE PAGE
Wilbur David Cook, Landscape Architect

The particular duty of the landscape architect thus becomes that of co-ordinating the various elements that enter into consideration for the ultimate use of the land with which he works. If it be a private estate that receives his attention he probably will not be called upon to design the house or other main buildings; but he will be vitally interested in the design of such buildings in their relationship to the efficient use of land and the general ground plan of the estate. He may not actually survey the property but he must understand topographical work and must know that it has been surveyed accurately. And he must, himself, be able to work from the topographical data. He must be able to establish proper grades and make specifications for grading. He must be able to specify road construction, irrigation lines,

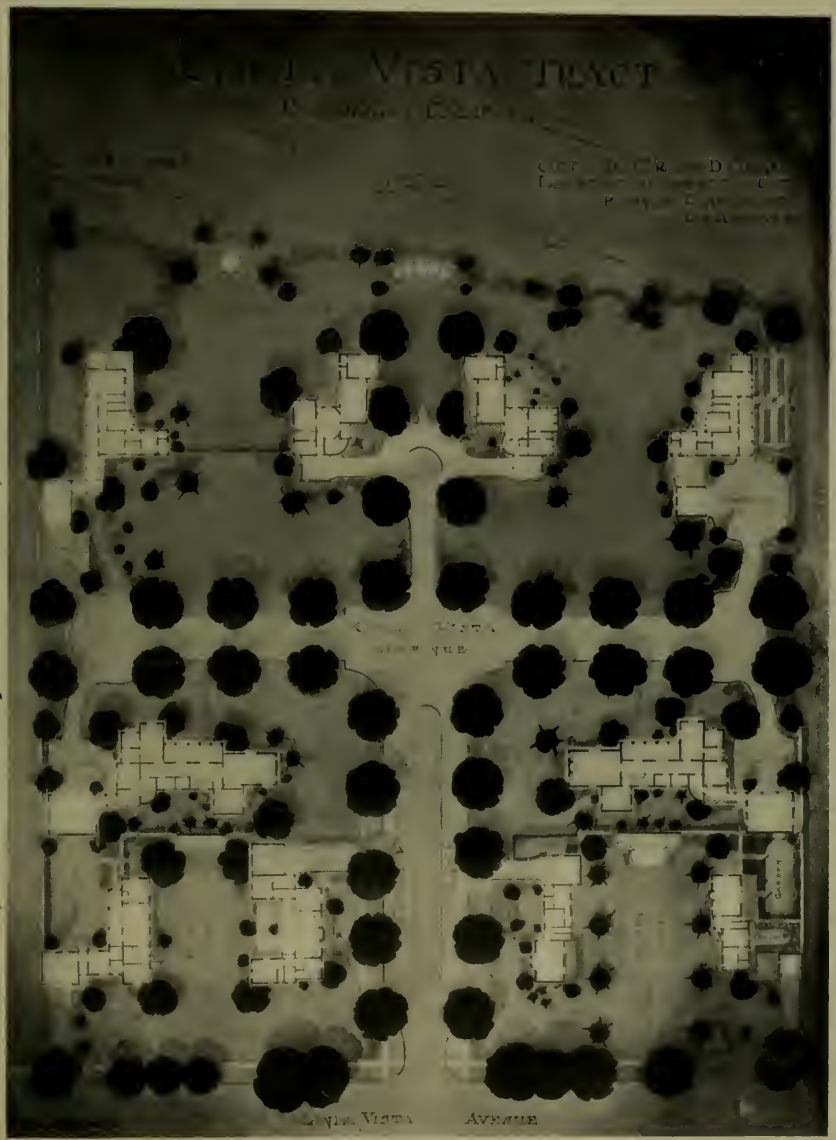
design offers a special lure to many. While the field of subdivision designing and planning has called many landscape architects who find greater fascination in this work than in the other fields open to them.

Of the specializations noted above, the of subdivision planning is the most closely allied to city planning. Most of our modern cities have probably developed, through the natural processes of growth, by the joining together and adding of subdivisions, planned and unplanned, one to another. The complete subdivision may be, in itself, a complete small city; or it may be merely one small piece in the jig-saw pattern that composes the larger metropolitan area. This circumstance of scope and relationship to the larger area of the city is largely a matter of relativity. Whether the subdivision unit serves a very specialized purpose or whether it is broad in its compass of urban uses and more or less includes a multitude of civic functions, it cannot be entirely successful in its contribution to civic activities unless it has been thoughtfully studied and properly related to its entire environs. Thus, a subdivision unit within a city may serve purely residential purposes for either private homes or apartment dwellings; or it may include with these the local business district to serve the neighborhood shopping needs. It may be concerned solely with industrial usages, or it may be so large as to include all classes of urban occupancy and activity. But excepting as these usages are studied in relation to the larger city plan: excepting as traffic needs and facilities are studied and properly provided; excepting as proper recreational areas, parks and open air spaces are available, either within the subdivision itself or within properly accessible portions of the larger community plan, the individual subdivision cannot be thought of as entirely successful. These are reasons why the professions of landscape architecture and city planning have evolved into the important positions that they now hold

MEMORIAL FOUNTAIN IN CARTHAY CENTER, LOS ANGELES
Cook, Hall & Cornell, Landscape Architects



PERSPECTIVE OF THE REVISED COOK AND HALL PLAN FOR THE LOS ANGELES CITY AND COUNTY ADMINISTRATIVE CENTER



CHULA VISTA TRACT, PASADENA—A SMALL, FOUR ACRE SUBDIVISION IN WHICH THE LOCATION OF TEN HOMESITES HAS BEEN STUDIED AND COMPOSED

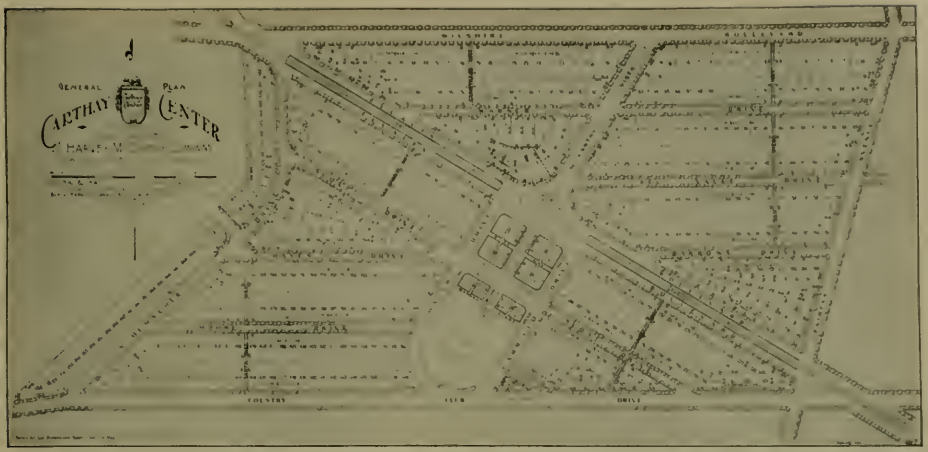
COOK, HALL & CORNELL, LANDSCAPE ARCHITECTS AND CITY PLANNERS

within the consciousness of civic growth and public welfare. And, further, they are reasons why subdivisions must not be platted in stereotyped form of street pattern that considers nothing but the extension of existing streets, regardless of their use and

MONTE MAR VISTA—A SUBDIVISION OF 130 ACRES WITHIN LOS ANGELES
Note how well the road plan fits existing topography.
Cook, Hall & Cornell, Landscape Architects and City Planners

importance, and is concerned chiefly with the local, selfish interests of the moment. The subdivision of a given area to provide the largest possible number of lots does not necessarily make the greatest contribution to the community life or yield the largest financial returns to the subdivision promoter.

The day when it is necessary to rise to the defense of beauty, as such, or to defend the need of active recreation and open air spaces has passed. The cold statistics of business have proven beyond a doubt that there is sound economic value in attractive surroundings and that a city, that gives thought to such matters, not only is a more healthful and attractive place in which to live, but gains in economic returns from such beauty. There probably can be no more accurate a barometer of such values than the real estate promoter himself, who profits from the sale and development of property. And he has come to recognize, from his own experience, that land within an attractive and efficiently planned area will yield far greater actual returns than does a similar area within districts that have just grown without regard for the amenities of life. Mankind, today, is placing a premium upon beauty in increasing



CARTHAY CENTER, LOS ANGELES, COVERING 140 ACRES OF FLAT GROUND
Cook, Hall & Cornell, Landscape Architects and City Planners

degree, and none is quicker to realize this fact than he who is selling values to the public.

The more tangible aspects of subdivision and city planning are more or less self evident. With our modern tendencies and facilities for rapid transit and the annihilation of distance, it is not necessary that we argue for traffic provisions. But it is necessary that those responsible for the planning of occupied areas be trained in the ways and means of providing these needs, and establishing the proper relationships between areas occupied for different usages. Residential and business districts must be readily accessible, one to another, without in any way encroaching upon each other in ways that may be detrimental to either. Different districts must have adequate means of communication with one another, the importance of this relationship varying with the amount and type of communication that goes on between them.

During the nineteenth century the universal tendency was for all business activities to centralize and then to expand from the focal point. Today the trend is toward decentralization in that local business centers are springing up at varying distances from the original center, — this largely in response to the economic problem of traffic congestion in the centers of our cities. Thus the importance of proper study and planning for these lesser subdivisions of the metropolitan districts, that they may function adequately within themselves and yet relate conveniently and efficiently to the regional plan, places an increased responsibility upon those who determine their design. The landscape architect and the city planner, of all professional men, seem better qualified through training and experience to meet these needs than do those whose specialization has been along other lines.

Editor's Note—This is the first of a series of four articles especially prepared for this magazine by members of the firm of Cook, Hall and Cornell, Landscape Architects, of Los Angeles. The second article by Mr. Hall will be published in May. Short biographical sketches of Messrs. Cook, Hall and Cornell follow:

W. D. Cook: Born in Atlanta, Ga., 1869, received his early education in the public schools of Boston, English High and Burdette Business College. Entered the employ of Olmsted Brothers, Landscape Architects in 1892, there being no schools of landscape architecture at that time. Past President of the Pacific Coast Chapter of the American Society of Landscape Architects into which he was elected as a Fellow in 1910.

George D. Hall: Born in San Antonio, Texas in 1877. Attended school at Smith Academy, St. Louis and St. Pauls School, Concord, N. H. Graduated Harvard College in 1899. Studied landscape architecture at the Massachusetts Institute of Technology, 1901-2, and Harvard University, 1902-3. Partner of Brett & Hall, Landscape Architects, Boston, Mass., 1904-19, Member of Cook & Hall, 1920-24. Member of Cook, Hall & Cornell, 1924 to date. Served on Executive Committee, Boston Chapter of the American Society of Landscape Architects and at present is on Executive Committee of Pacific Coast Chapter. Member of American City Planning Institute. Member Flintridge Golf Club and California Harvard Club. Fellow of the American Society of Landscape Architects.

Ralph D. Cornell: Born in 1890 in Holdrege, Nebraska. Came to California in 1908. After receiving Bachelor's degree at Pomona College took a three year graduate course at the Harvard School of Landscape Architecture, where received degree of Master in Landscape Architecture. This was followed by a year's practical experience with a prominent landscape firm in Toronto, Canada. Spent a year overseas in the infantry service with a combat division. After armistice came to Los Angeles and opened office for professional practice. Member of the Honorary Fraternity of Phi Beta Kappa and a Fellow in the American Society of Landscape Architecture.

PRIVATE MAUSOLEUM FOR TRIXIE FRIGANZA, HOLLYWOOD
ARNOLD CONSTABLE, ARCHITECT

ARCHITECTURE SHANGHAIED

Being the experiences of a Los Angeles draughtsman seeking work and adventure while unemployed

by
PHILIP CLARK FISK

AS an architectural draftsman "out of work", unemployed, and with an excess of leisure on my hands I had decided to travel, and it was a grey, damp April morning that I had started to walk right by the gateman at the dock entrance.

"Hey there, where're you going?"

"I'd like to see the mate." I replied as carelessly as I could.

"Which mate?"

"Why, the first mate!"

"All right, I guess you'll find him on board." And I breathed more easily.

You see, I had decided to apply for the job of "wiper", and the gateman was the only real hurdle. The ship was an ordinary freighter, with the usual amidship housing, four cargo hatches, and a generous looking fo'castle aft. It was fairly small, and looked, in contrast to the bleak unemployment I would be leaving, terribly friendly.

After a fifteen-minute search I found the first assistant engineer—my real quest, and after giving him eye for eye and convincing him with a few vague answers (as only architects can do) to his questions, I was told to "turn to" the next morning. I thanked him with an "OK" and went out on deck to sigh my success! I was sailing to San Juan, La Guaira, Puerto Cabello, Maracaibo, and the Dutch West Indies, and I was to be paid for it!

For the first three days at sea I was in both a muscular and mental daze; muscular because of the dog's work I had to do (far different from pushing a pencil), and mental because of the relief from the financial condition I had just put behind me.

Our cargo consisted mostly of wheat, but from there it branched amusingly to four crated Belgian hares with nervous noses, and three shiny new Chevrolet cars on their way to Puerto Cabello. The rabbits, and a race horse which we picked up at San Juan, remained on deck and were being sent to none other than the President of Venezuela at Caracas.

My job as "wiper" put me in close association with the engine room, naturally, and at times I realized only too clearly (or is oily more apt?) that I was a member of the well-known "Black-gang"!

The oiler with whom I had been entrusted noticed one day that I was wearing a small ring on the little finger of my left hand. He pointed to it and shook his head ominously. "It's like this," he said, talking loudly above the general noise of the engine room "you might be working close to an engine and just the small difference of that ring sticking out might catch your finger and take the whole hand right in!" He made an ugly dive in the air with his hand. "Just like that!"

Having, in accordance with my profession, a high valuation on my hands, plus an inborn distrust of large expanses of

running machinery, I knew that wherever I had to be working in that hot, oily engine room, I would not voluntarily have a hand, or any other part of my anatomy in any such close proximity to the machinery. But the oiler insisted, "I'm telling ya, big boy, you'd better take it off!" So to be true to the code of engine room ethics, I removed the ring, feeling a bit lost with the now nude little finger.

We followed a course about thirteen degrees West of South from New York to San Juan which we entered one warm, foggy morning at six o'clock. The island's largest harbor swung in a huge arc around us, with mountains of small peaks rising into a mysterious looking inert mist.

I went ashore, up the embarcadero to the town proper and plaza. What scale, detail, and color these builders had used in planning the mass of some church or semi-public building, and what charm was displayed in the high ceilinged, balconied houses, with all their shuttered doors open to the breeze (and view)! We walked up many narrow streets to the top of the hill in back of the town, and from there gazed down upon the sea and a small colorful cemetery which nestles against one corner of the massive walls around old Morro Castle. We strolled past numerous goats browsing just off the road, and followed the curved narrow roadway down through a short vaulted tunnel which emptied us at the edge of the charming cemetery. Its simple little tombstones have written on them some of the most important names in Puerto Rican history, and in their modest, tasteful designs they form a most pleasant picture as they rest harmoniously in front of the deep blue background of the Atlantic. Most of the tombs are of a yellow stone or marble and the whole scheme is watched over by a little circular chapel in the center.

Two and a half days more at sea, and a silver-like dark line high in the clouds became more insistent as we sailed until I soon realized that we were approaching La Guaira, situated at the base of a mountain range which rises abruptly out of the sea to a height of ten or twelve thousand feet. La Guaira was founded in 1588, was destructively sacked by filibusters about seven years later, and again by the French in 1680. It is the most important harbor in Venezuela, being but twenty-three miles from Caracas, and in the vague form of an amphitheater it presents an inviting tableau as its small houses step gaily up the mountainside in assorted colors of soft tans, greens, blues, and off-whites. An old fort, painted green, commands a dominating view of all approaches to the harbor with an air of rather languid aggressiveness. As we "half-aheaded" and "full asterned" into the tiny crowded harbor, formed largely by a breakwater, the noise of a busy little town came out to us — donkeys braying, streetcars and locomotives, the size of Fords, clanging and tooting, and natives chattering busily among themselves. The La Guaira I explored that night was gay and welcoming. Restaurants appeared to be scarce and at one in the morning its nearest relative seemed to be a small sort of push cart which vended appetizing biscuits filled with cheese, fish, onions, and whatnot. But we had been drinking beer for a matter of hours at the Bar del Commercio, and had been dancing with a variety of gay leisured ladies of varying duskiness "up on the hill", and we were hungry.

By day the town was warm and enervating, but I managed to break away from the coolness of the bars and their beer long enough to investigate some of the hilly stepped streets and their architecture. A huge pair of wood doors of some twelve feet in height form the entrance motive to the house which stands as in European towns, directly on the street. The windows are also rather huge affairs and are invariably grilled with wood. The walls, exterior at least, are of stone or adobe and vary in thickness up to three feet, and are covered with a fairly smooth hard plaster, painted. None of the window openings are glazed, but are merely filled with large panelled or louverd doors in pairs, and these usually swing inside the room to stand against the deep reveal caused by the wall thickness. I found several examples of entire walls formed of fixed louvers, though for the most part these did not

reach to the ceiling, but went up about ten feet as a more or less free standing partitions or screens, the louvers being from four to six inches wide and three-eighths to a half inch thick. Thus, cross ventilation is not stopped but goes on through the partition or wall.

The Vice Consul explained to me that during some of the rather frequent blows the natives leave their doors and windows open and allow the air to pass through, thereby insuring in some measure the presence of the roof after the blow has finished. The roofs are made of a cheap sun-dried tile and will not resist the heavy foot of an ordinary workman. When any roofing or roof-repairing is to be done, it is always executed by a skilled native workman with a catlike tread.

Wood in this region is subject to the daily menu of the small white ant and is therefore used sparingly. It is used, however, for structural purposes such as beams and rafters, and for door and window openings.

Although the predominating exterior color is a sort of burnt yellow with plaster moldings painted white, other colors are used; a greyed pink, white, a dull blue-grey, various shades of blue-green and tan. Color is rarely used in the interior except for the dado or perhaps for a bit of decoration in the entrance hall, directly off the street. Many houses in Maracaibo have decorative designs in tile in the entrance halls. The straightforward simplicity of the houses, their high ceilings of eighteen feet or more, and the ever present court give them a feeling of happy spaciousness. In the larger houses the court takes the form of a square with a wide balcony around all four sides, having a stairway to it from the court. The balcony, in turn, forms a loggia around the ground floor of the court, and in most of the grander courts classic detail has been used in the form of the Ionic order for the ground floor and a small order of Doric collonettes, perhaps fluted, on the balcony, supporting a roof. The "Casa de la Mejor" in La Guaira is a fine example of this combination.

I encountered a difficult and annoying problem in thinking that I could send some postcards back to the "States". The prevailing system is to sell stamps at one end of town and to mail them at the opposite end, and after having accumulated two or three strange sets of directions from natives, I decided against any attempt at communicating with my friends. Apparently this rule holds true throughout Venezuela for I had the same problem in Puerto Cabello, our next port.

With the added distinction of having the national navy yards and drydocks for a background, Puerto Cabello is the second principal port of Venezuela. A bright little fighting cruiser lay at anchor as we entered the harbor. It was very white, and immaculate, and thoroughly out of date. It had been purchased, I was told, from the United States many years ago.

Curacao, clean and colorfully Dutch, was our next port of call, and the harbor of St. Anna, narrow and canal-like, cuts the town of Willemstad from its neighboring suburb. The entire scene is delightful; the small houses and commercial buildings in the Amsterdam style give a gay string of roof lines, and various groups of white schooners which cruise the Carribean lie quietly against the docks, their sails furled and canvas stretched tautly over the decks as protection from the sun. Their cargoes interested us, for more than one fortune in Curacao has received its first impetus from the romantic source of smuggling, there being no tariff on most articles. Cigarettes of American make can be bought for 1.10 a carton, and perfume, jewelry, etc., are all correspondingly cheap. These same articles are taxed highly in Venezuela, thus making smuggling an attractive vocation, if one cares to go in for that sort of thing!

As an official language, Dutch is used, but the island natives resort to what is known as "Papaimento", a combination of Spanish, Dutch, English, and native words. Curacao, like Maracaibo, has boomed through the oil developments in Venezuela.

and near Willemstad is one of the largest refineries in the world.

Louvers are numerous here as in Venezuela, but the door and window openings are designed on a much smaller scale. Quaintness and style are here more the keynote than the grandiose spaciousness of the Venezuelan house. The Dutch have taken great delight in using the traditional motives of Amsterdam, and gable molds painted white, do gay tricks in combinations of curves, volutes, cyma-reversas, and straight lines. The use of the dormer for residences is typical, and chunky little second and third story colonnades and arches are frequently motivated in many of the more commercial structures.

Maracaibo, lying in lazy horizontal stretches around its harbor is greatly in debt to the petroleum boom for its growth and prosperity. The shallow channel at the entrance to the bay permits only vessels having no more than a twelve foot draft, but tankers especially designed for this voyage, and many schooners plying their trades, licit and illicit, between the islands of the Carribean, make this harbor their home port.

In Maracaibo, as in La Guaira and Puerto Cabello, the court forms the architectural key to the house plan, and from the street many of these can be seen through the large entrance doors that are usually standing open.

The market, the parks and the theater, are the pride of the city. The bordering edge of the huge steel frame market which occupies an entire block, is composed of little shops, selling clothes, shoes, and various sundries and foods, while the high arched interior contains fish and meat shops and vegetable stalls, none of which are overly sanitary. The famous city plaza is raised about three feet from the street and the walks which bound it and cross at diagonals, are of colorful glazed tile, the whole presenting a lovely terraced plane of verdure.

Maracaibo, in addition to being a petroleum centre, has one of the country's largest breweries, and "Cervesa Zulia", named after the state of Zulia, retails in this agreeable city at four cents a glass. A boon to depleted architects!

We dallied five days, wandering through the narrow streets at night, escaping the scorching sun by day, and more than once we envied the scrawny ill-sandled peddler who sat astride his equally scrawny donkey, flicking his ribs with a light stick to insure progress. But it was soon all behind us, as we climbed the ship's ladder for the last time. After the third mate had finished roaring "Carajo" at the poor native stevedores, and our lines had been hauled aboard, we headed out toward the Carribean once more, leaving Maracaibo in our broad wake astern.

MODERN EXTERIOR CONCEALS TRUE AGE OF OAKLAND BUILDING

OAKLAND has taken the initiative in the Northern and Central California movement to modernize. Three undertakings of this type have recently been completed, one of which, the Blake Block, is described and illustrated here.

The accompanying photographs show the building, before and after the modernization work which was completed last fall. The Blake Block occupies a site 150x100 feet, on the southwest corner of Twelfth and Washington Streets. It was built in 1890 and was remodeled in 1912, when the ground floor store fronts and the interior of the office floors were modernized. The exterior of the upper stories, with the bay windows, remained as originally built. The recent modernization included the removing of these bay windows and the refacing of the upper stories.

The building is owned by the M. K. Blake Estate Company, of which H. R. Havens is president. Mr. Havens instigated the modernization just completed and the work was done under his personal supervision.

The contract for the work was signed on July 28. Work was started August 15 and was completed October 1. The M. K. Blake Estate Company was readily granted the permission of the ground floor and office tenants to make these alterations, with the understanding that the work would be completed by October 1. Therefore, a time bond was given by the contractor, who agreed also that the actual work of modernization was not to be started until all tile, window frames and sash, lumber (cut, stained and painted) and all other building materials were actually on the premises.

To effect the changes shown in the contrasting photographs, all bay windows, cornices, projecting mouldings and ornamentations were removed. Structural changes were taken care of as required and a new exterior finish of American encaustic tile, in selected colors, was applied to the brick walls. The tile with black trim, is tan. The ornamental designs are of black, dark brown, old rose and light brown.

In the interior, new linoleum and new lighting fixtures were installed throughout the building and all woodwork was refinished. The building lobby was completely modernized and a new marquis placed above the entrance. The old entrance was of white marble. The new one is of black marble with a terrazo floor in black and tan.

All tenants of outside offices remained in occupancy during the period of alteration. An arrangement of temporary partitions was created, so that the work of changing the windows and making the other necessary improvements could be done without interfering with the office occupants.

These temporary partitions, of full height and length, were installed across the fronts of all offices affected, before the bay windows were removed. Some of the old windows were installed in the partitioning to give the offices light and air. A space of 21 inches was left between the outside

BLAKE BUILDING, OAKLAND, CALIFORNIA
Photo taken before alterations.

Courtesy Buildings and Building Management

BLAKE BUILDING, OAKLAND, CALIFORNIA
Photo taken after modernization.

walls and the temporary partitions so that workmen could proceed without interfering with the tenants. The work in each office was all completed, varnished, painted and so on, before the temporary partition was removed.

The plan worked out extremely well and the tenants have expressed themselves as pleased—before, during and after the modernization.

With reference to the benefits derived from the improvements, Mildred F. Engelke, writes in *Buildings and Building Management*, as follows:

"It is difficult to evaluate the exact effect of the modernization upon our tenants. Many of them maintain branch offices of wholesale firms and have been located in the building for many years. Our professional tenants also have been with us for from 12 to 20 years. They all state that their patients are well pleased with the modernization and this is, of course, an important consideration.

"It seems safe to say, however, that the results of the modernization have been extremely beneficial, not only for the building itself, but from the standpoint of the surrounding properties and for the downtown district of Oakland, in general. A number of people have expressed the opinion that doing this work during the depression has been an excellent thing for the community, by providing employment for 100 men, and the owners of the buildings have received many compliments. These, in turn, are naturally reflected in good-will toward the building."

ARCHITECT'S VERSATILITY

The daily press records that John Root, prominent Chicago architect, functions at times as a successful designer of women's gowns.

Claude Bragdon, architect, mathematician and author, has added to his reputation by designing the successful stage settings for Walter Hampden's "Cyrano de Bergerac."

Delano and Aldrich of New York have designed and sold successful doll houses. Young architects not now employed in their profession are selling through the Architects Sales Bureau artistic leather goods, jewelry, radios, etc.

There is plenty of precedent for all this in the active versatility of Renaissance architects.

Michelangelo Buonarroti (1475-1564) was architect, sculptor, painter and poet.

Leonardo da Vinci (1452-1519) was painter, sculptor, architect and engineer.

Baldassare Peruzzi (1481-1556) was painter and architect, and coming down to the last century Carl Friedrich Schinkel (1781-1841) was architect, university professor, scenery designer and mural painter. For years Prussia maintained the Schinkel Museum in Charlottenburg. Now it is installed on Unter den Linden in Berlin in what was the Crown Prince's Palace. The extraordinary versatility of Schinkel is born in on a visitor to this museum when he sees the many photographs of executed work which include the Schauspielhaus and Das Alte Museum, models of buildings and engineering works, studies for frescoes and the scenery for classic plays.

San Francisco architects are showing their versatility by applying themselves to various pursuits outside their profession. Several have turned salesmen, one is busy on a new patent, two have gone to ranching and another is making etchings. Mr. Miller, formerly in Lewis Hobart's office, is making jig-saw puzzles.

F. Eugene Barton has designed a "dream kitchen" which the General Electric Company has constructed on wheels for the convenience of prospective customers.

Leonard Ford of Oakland is helping the "trade and barter" committee in Berkeley. His task is to find something two parties need, then arrange with them to pay for the articles in labor, instead of cash.

John J. Donovan utilizes his spare time writing books on school architecture and perfecting his window patents. W. H. Ratcliff, Jr., is in the banking business.

So let not the architect be discouraged if his clients for building do not overcrowd his office at the moment. Let him broaden his horizon by interesting himself as did his predecessors in allied arts.

BEN ALI DISTRICT SCHOOL, NORTH SACRAMENTO, CALIFORNIA
P. L. Dragon and C. R. Schmidts, Architects

PLAN, BEN ALI DISTRICT SCHOOL
P. L. Dragon and C. R. Schmidts, Architects

ART — IS IT A SCIENCE?

by
Wm. LEE WOOLLETT
Architect

Foreword—It is a matter of common belief, so much so that it has become an axiom that Art criticism may properly come from those who are inexperienced in the practice of the arts. Is it not taken for granted that the artist is handicapped for the role of critic? Is the lack of perspective due to the limitations of a particular school of technique and the intensity of the artists gaze upon the work of his own hands of necessity a sufficient reason for this prejudice?

The professional critic, the genius, who uses art as a fly-wheel for steadying the literary faculty, is the chief purveyor of knowledge about Art. It is true that this type of educator is unfettered by much impedimenta and can therefore give free reign to the powers of analysis. Moreover it is pointed out that criticism is an art in itself requiring a specialist's training and talent, and is a life work even as the work of the artist.

Writers of towering literary eminence frequently include Art in their repertoire. The faculty for analysis and research, the flair for generalization, often constitutes the sole basis for this so-called "Art Criticism." From the standpoint of the artist, conclusions based on mere observations about Art and artists is thin nourishment. Perhaps no form of critical literature is so prone to err as to technical accuracy as that of Art criticism.

The language of Art seems to be as yet without a scientific nomenclature. For this reason the beginner, the searcher for truth, is frequently hard pressed to find a reasonable pathway through the labarinthian effusions of men who could not make a beautiful thing if they tried.

Illustrating this phase of criticism, Emerson in his essay on Art, states that "Sculpture was the game of a rude and youthful people," etc. The prudery of an age that denied the theater and the dance to the orthodox might explain this attitude towards sculpture. Certainly the attitude of Dr. R. A. Millikan, who, through his writings, has directed our attention to the modern tendency toward organization and control of all of life's processes, is a definite challenge to the realm of Art to get itself in order.

ART criticism! The poetry and talk about Art and Artists is one thing, the method of thought which makes Art and Architecture possible, is another. Have you considered the Mexican who turns out a beautiful tile, the Javanese who produces a drawing, the ancient Chinese potter? These isolated persons create their "speck" of beauty utterly unconscious of the History of Art — unknown to Art criticism.

Observation indicates that the basic truths necessary to the production of a thing of beauty are easily apprehended by simple-minded, rational people.

These truths come out of the structure of the mind itself, and are as natural to the unsophisticated as breath. Moreover, a heritage of many generations of culture is not a guarantee of ability to use creatively these obvious Art values. In fact whole epochs pass into oblivion without the spark of a creative Art appearing. Whenever the maker of beautiful things does appear on the scene, however, his work is in harmony with every other beautiful thing created.

What is the nature of the law which unifies the entire realm of Art; hence the harmony which enables the isolated student to function as a "teacher of Art" which empowers even the so-called barbarian to create new objects of beauty?

Is it because Art is a science—an exact science? Contrary to popular belief, has Art fixed and immutable laws, a scientific and mathematical basis? Is it possible to

show a sequence of historical data and background which enables the statement of the laws governing the creation of Art on a purely empirical basis?

When the earth was growing and nature had not as yet laid down its re-current layers, was there a so-called science of Geology, any hypothesis of world evolution, or could there be until sufficient of life's processes had asserted themselves and left behind a relique of events? So with Art, mankind has now achieved the rise and fall of many civilizations, the creation and culmination of many diverse aspects of the Art impulse. There exists now undisputed evidence that the Art activities of mankind have been recorded in the adamantine rock of man's mental structure. In the psychological man we are able to trace the laws of Art; to establish an orderly knowledge of the meets and bounds of man's power in Art; and, above all, to create a scientific attitude toward the study of Art.

Is Art more or less than a method of thought? Is it not in its finalty man's most advanced reflex to his environment, the capstone of his attitude toward his objective world, an effort to create symbols of the realities of the subjective world, in which his real life moves and has it's being? As the poet says: "Since I am convinced that reality is not real, how shall I admit that dreams are dreams?"

We live in an age of science, or imagine we do. How shall we know that dreams are dreams? This so-called world of science is a changing kaledescopic kind of world. A recent re-subdivision of the atom, a new concept of space, a fresh angle on the theory of light, and this stable thing we call "scientific" knowledge comes tumbling down over our head; and a new concept of what the universe is and how it functions must be re-erected out of entirely new elements. On the other hand Art, and the mind of man, synchronously created, are ordered forever on the unchanging principles of abstract truth. Keats said, "Beauty is truth — truth beauty." Truth is the kernel or atom; and the entire fabric of Art may be built up out of this atom without fear that the atom may be re-subdivided or the concept of truth changed.

The challenge of the ages rides in the saddle of truth. There is no spectre of defeat, nor fall for this rider. As sure as the march of fate itself, the evolution of Art and the evolution of man's mind go on —side by side—each a complement of the other. To say which comes first is to say —the chicken or the egg?—accomplishment in the realm of Art on the one hand, and the mental structure of man on the other. Therefore these are at once complementary and supplementary to each other. The knowledge of this duality is one of the tools of creation; instinct in man. To express this idea is to become a part of the creative force of which Art is the illustration. This thought also is in the nature of an enabling act, making possible a station point, from which life processes may be viewed through portals of understanding.

To so state thought fundamentals about Art and Architecture that the full logical structure of the scientific formulae is apparent, and to so state these truths that the grand rhythm of our entire complex civilization as well is included in the picture, is a reasonable though difficult task. Does the enormous diversity and complexity of our modern world present itself as an obstacle to the consummation of such an object?

A vision of the world going in and out of small pigeon holes—each individual being occupied with his own sphere of knowledge only, no man knowing the other man's work or play—no co-ordination of the various ologies and sciences — no common ground of understanding—is the vision of Babylon; and life is a terrifying and mysterious tangle to him "who knows not that he knows not." Art, however, may be found to be the unifying factor, the common denominator of mankind, which enables man to function in the maelstrom of objectivity.

Conceptions of the unity of our civilization are obviously quite impossible without a recognization of Art values. Moreover, only out of an experience with diversity may we approach an understanding of unity. In order to interpret in terms of

Art the civilization of which we are a part it is necessary to systematize, organize, and unify our concept of all of life's processes. Any cogent system, therefore, relating to Art's truths must justify itself by being a coherent part of a universal system, and should, as well, appeal to the ordinary intelligence. The system must be a practical, workable hypothesis, since our avowed purpose is to gain a concrete knowledge of the laws of production in Art. The answer should be found in the statement of the problem, and not at the end of the book.

The problem of growing into a proper conception of Art is something like forming an opinion of the value of a diamond. You turn the many facets to the eye; now the diamond is yellow, now blue. Each turn presents another light; each added hue of color, another concept of the whole. Without the ability to hold in one's mind the varying moods of the diamond's characteristics there could be no final appraisal of its worth.

The concept of Art as having a scientific formula is in that respect like any other science, in that we have merely a working hypothesis. In the case of Art, however, there is not the possibility of the "atom" being changed; abstract values remain.

Illustrating the use of abstract ideas in the appraisal of Art values let us compare two buildings, which on the objective plane are quite unlike—the Parthenon and the Pantheon. Ordinarily one would say, "Why try to compare things so unsuited to comparison, so incomparable? The structure of the Pantheon consists of a structural core plus an ornamental covering—concrete within; brick, plaster, stone, and marble on the surfaces, inside and out. The Parthenon is quite different in the principle of its construction. This building is of one material throughout. Marble blocks which form at once the core of the wall and the surface treatment. Which of the two buildings gives out most an idea of permanence, of stability, of being a monument, other things considered? The abstract values, of permanence and stability, the chief characteristics of a monument in this case provide an accepted means for comparison of the buildings in question.

We have compared buildings here which are premiere in their class and of the same general type, and similar in function. It would be still more difficult to compare two buildings which were quite unlike in function and of a different type. For instance, how very peculiar to seek a comparison between the Brooklyn Bridge and the Pyramids? This would be an interesting and amusing topic however, as illusive abstract values involving kinetic elements as opposed to static elements, would be in the balance.

It is obvious therefore that by bringing into apposition the abstract values a brisk fire of controversy is possible in regard to the correspondence of such diverse structures as the Pyramids and the Brooklyn Bridge. However, one cannot say or even entertain the question which of the two edifices, the Pyramids or the Brooklyn Bridge, is the best composition, the most suitable to its practical purpose, or the most pleasing in structure or the most beautiful. This simple illustration at once discloses how meager ideas of Art must be if unattached to a scientific formula.

The assumption that Art is a science is an affront to the Artist who does not know what and how he produces the beautiful. A few artists are naive children who imagine that they are sons of the gods, that genius is above criticism, and that to probe into the whys and wherefores is a sacrilege. Such an attitude tends to clog all roads leading to an understanding of Art.

However, more often the Artist is a thoughtful, logical person, who has investigated the methods of his own mind and has organized that mind into a working tool. A very simple formula or even rule of thumb is sufficient to enable the production of very beautiful and complex artistry. Have you ever seen the carved patterns on the paddles of the South Sea Islanders? Do you remember the "Nude Coming Down the Stairway," by Duchamp?

Formulae and rule of thumb methods are but crystalized craftsmanship, which, like

the nomenclatures of Art and Architecture, constitute a library or store of criteria by which we may discover the psychology of Art. These findings in turn are useful in developing the underlying current philosophies of Art.

Confining our allusion to Architecture, for the moment—"composition," "sincerity of construction," "appropriate material," "circulation," "function," "plan and elevation in accord," etc., etc., are some of the expressions one finds on the lips of instructors in the Art of Architecture. These seem to indicate a practical, fact-finding attitude, the center of interest being the objective phase of the subject, with very little emphasis placed on the abstract values. "Unity," is deemed to be the greatest slogan of them all, and yet how shall we apprehend this unity?

The scattered or pigeon hole education, of which we are at once the victims and the beneficiaries, has not as yet produced a nomenclature of the sub-conscious and abstract values.

A yearning for a vision of the whole, a desire for some basic principle which would be useful as a measuring stick, a demand to know Art and Architecture as a part of the universal harmony, and a desire that all nomenclature and craft be in accord with the simple categories of the mind, evidences a scientific attitude.

The scientific attitude demands above all else a sense of unity. A sense of unity, as already indicated, can only come out of an understanding of diversity. Art and Architecture! plus the great world of mechanics, of chemistry, of physics, of psychology, of biology, etc.; of the new movements in Art, Music, Literature, etc.! These forces, out of which are continually appearing "New World" symbols, have a representation in the categories of Art by virtue of our appreciation of the abstract values. Therefore through these abstract values we may know all life, and Art may be known in harmony therewith.

Is this an apparently impossible thesis? How indeed shall the whale swallow the sea in which it swims? How shall the study of Architecture include the study of all contributary forces? May the answer be, "The road which leads to the impossible is the road which leads to understanding?"

Modern civilization has developed a system of thought peculiarly its own. The note of unity which we demand as between Art and the other activities of mankind must be sought more particularly in the abstract values and the symbols we find in this system of thought. Painting and Sculpture, Music and Literature of today will be great comparably, as works of Phidias and Shakespeare were great; when the modern Artist has digested the civilization in which he lives, when he is able to give expression to his idea in terms of the abstractions which dominate modern thought, when incidentally he can divest himself of his concept of separateness. He must interpret life, all of life, to his contemporaries in terms of which they themselves are a part. The system of thought which is now the vogue, is like our language, a changing growing nomenclature of abstract values.

To illustrate: in the theory of limits, the calculus presents a phase of thought. One might dignify the mathematical slant or aspect with the term "method." The methods for finding the unknown quantities, the methods of arriving at answers involving variables, the concept of the uses of the zero and infinity, the idea of series, of progression, of the fourth dimension, are part of this method. We have herewith a mechanism of thought which has become a part of our civilization and represents a phase which may not be neglected in an appraisal of the abstract values which may be expressed in Art and Architecture.

Appraising influences to which the race has been subjected from an entirely different angle, consider the influences of the great Teacher, Jesus. Also that out of the stress of the Dark Ages and the Reformation, out of the rise of popular government, and the scientific attitude toward research, (See Dr. R. Millikan) there have been born new and vital symbols.

The "Red Cross" is one of the symbols in which is crystalized the meaning of our modern civilization; it has become a symbol of power, and of unity and divinity, of effi-

ciency, of humanitarism; a serene fixed star of service. The love of speed has evolved another symbol, or better, a series of symbols. Lindbergh is a symbol of this series, as is the Graf and the aeroplane.

Illustrating the use of a modern symbol, the figure of aspiration, by the author, created as a symbol of the contest between good and evil, the higher and the lower, the slow and the swift—a combination of a snail and a deer—might have been made at any time in the past. At no time could it have the significance that it has today, when the concepts of growth and change, i.e., the Darwinian idea of evolution has become part of man's mental equipment. The science of biology alone as a background for this symbol adds a significant meaning.

As in a Persian rug, or a medieval tapestry, or a Bach fugue, it is of course desirable to know the theme in order to enjoy the movement and significance of values in symbols of this character. The objective form is but an echo or mirrowed figure of the real which is created in the subconscious, and the problem of modern Art is to know the law and express this reality of the sub-conscious through a rational process.

What did Emerson mean then when he said that sculpture was "the game or a rude and youthful people, and not the manly labor of a wise and spiritual nation?" Did he miss the abstract values of the ancient Art that sculpture is a game for hands nicely tuned to subtle values and perceptions alert to the powers inherent in the subconscious? Perhaps, probably so; but even if this be true, his meaning might have been aside from considerations of mere Art interpretation. Would it be difficult from a modern point of view to prove that Emerson was right in his estimate of Greek sculpture?

Emerson believed with us that man is on his way from lesser to greater things. As we have noted, man's primary impulse is to repeat agreeable sensations. This principle is one of the "leading strings" of the Almighty. Think if you will of the first few moments, days, weeks, of life given to man, to nestle in soft warm places, to take pleasing and refreshing drink; the first chapter, to wallow in the luxury of father and mother love through childhood days, the next; then the rod chapter, and after a little while to scamper forth into the world to get a taste and repeat the dose. This is the modus operandi through life-learning by experience to be sure; sensing the sour, but preferring the sweet.

Long before humanity had registered the pains and joys of the vicarious ideals, i.e., as expressed by an Emersonian philosophy, man put his unshod feet on the pathway of aesthetics; and, thrusting boldly out into the wilderness of desire, discovered by means of tragedy and comedy the realm of abstract beauty. The vision pleased him well; the history of Art is the record of the vision.

Since the time of the Greeks and Egyptians when first the full blown flower of beauty in Art sent forth its fragrance, man has grown. Each epoch since has witnessed accretions of experience and knowledge, after the rise and fall of Rome the dull fear of the Dark Ages must needs be registered. The cowl of Martin Luther thrown back from brave eyes, reminds us of the ever ascending levels of man's mental integrity. Then the caravans coming down into Egypt, and ships laden for Venice, Genoa, and Ceylon evisage a tide of merchandising which destined to girdle the globe with products of mart, heralded a new moral code. The credits, confidences, and responsibilities of a world commerce presage the emergence of a world consciousness. In consequence the idea of "a citizen of the world" is here.

Incidental to the growing pains and maturing struggles of the race, two main tap-roots have thrust down into the subconscious, one the search for the beautiful, for which man's impulse to pleasurable sensation is responsible. The other is the great tap-root of man's spiritual life, the "white man's burden," i.e., the sense of responsibility. This sense of responsibility the natural outcome of the necessity to provide, is the obvious opposite member of the couple —Art and the practical, these two. It is

this easily recognized apposition which is in part responsible for the accepted attitude that Art is "unscientific." Art is play, commerce is work, or in other words, play is what you want to do, and work what you are obliged to do.

The objective counterpart of the idea of responsibility is found in the co-ordinate and consolidated business structure of the day. This structure, which is built up on "confidence" or the inter-responsibility of man, is the cornice line of achievement of our epoch. This complicated and delicately adjusted conglomerate of diversified interests is welded together by means of an altogether different thought than which has held sway heretofor. The modern thought is a symbol of vicarious suffering and service.

Therefore looking at life in the large, Art and Architecture are deemed to be on the rim rather than at the center; is one of the purely incidental developments and enrichments of man's character. The Art sense is a developed sense of play and achieves its ends in itself. That the sense for beauty and Art is one of man's earlier achievements is evidenced by history.

Therefore from Emerson's point of view, the Art instinct in man developed at the play stage of his existence. The communistic man, citizen of the world, is only just arriving on the scene. And being a later accomplishment; is it fair to assume that this new sense registers a high water mark of human development?; higher than the sense which apprehends merely beauty or form and color, as the sine quanon of existence. Emerson viewed man in the large and naturally in comparison with the higher virtues and attainments, sculpture to him seemed irrelevant and immaterial to the success of a modern state.

So much for the exalted philosophic point of view! However, when we consider that the mass of mankind has yet to pass the Rubicon of aesthetics, for who ever may enter the realm of exalted philosophy must truly apprehend the values in aesthetics.

Viewed from the standpoint that aesthetics must be accomplished before one can go on to higher things, sculpture becomes a worthy achievement to those who otherwise would discount its value. On the other hand to him who has experienced sculpture, i.e., the truths in aesthetics, it becomes to him "the game of a crude and youthful people."

PROGRESS STUDY FOR A PUBLIC BUILDING DESIGN.
PROJECT L'ECOLE DES BEAUX ARTS

The Graphic Side of a Great Architect's Accomplishments

In this portfolio is presented a series of drawings made at l'Ecole des Beaux Arts, by John Galen Howard, late supervising architect and head of the School of Architecture, University of California. These "school' studies, with the exception of the above plate, were all "twelve-hour sketch" problems.
Next month's series will continue the Paris drawings and include major projects.

Republication prohibited except by special permission of Mrs. John Galen Howard.

"A PRIMARY SCHOOL", A TWELVE HOUR SKETCH PROBLEM, L'ECOLE DES BEAUX ARTS

"A LOGGIA", A TWELVE HOUR SKETCH PROBLEM
L'ECOLE DES BEAUX ARTS

"A BOAT LANDING AND COLONNADE," A TWELVE HOUR SKETCH PROBLEM, L'ECOLE DES BEAUX ARTS

"A GARDEN PAVILION", A TWELVE HOUR SKETCH PROBLEM.
AWARDED MENTION, L'ECOLE DES BEAUX ARTS

SKETCH PROBLEM "A CHURCH WARDEN'S PEW"
L'ECOLE DES BEAUX ARTS

VICISSITUDES OF A YOUNG ARCHITECT

by
ELMER GREY, F. A. I. A.

Fifth of a Series of Reminiscent Sketches of Early Architectural Practice of the Author

DURING the first part of my association with Mr. Hunt my health again failed and I decided to take a trip to the South Sea Islands. I boarded the steamer Mariposa at San Francisco and the events which are related in this number, except for the substitution of other names for evident reasons, happened just as they are told.

That they have not much to do with architecture as it is commonly considered must be admitted, but from another angle perhaps they do have a bearing. For the architect whose love of the beautiful does not extend beyond the boundaries of his own craft, into those, for instance, of feminine beauty, seems to me to be lacking in something rather important. I once knew one such who proudly proclaimed that he could not see a beautiful woman—considered it rather a weakness to do so—and his architectural work showed it and was hard and angular as might be expected. He and some of the extremists of the present modernistic school would have us believe that architectural beauty consists in expressing only the constructive bones of buildings: but there are plenty of us who are constituted differently and who are not satisfied with mere bones—either in buildings or in women! We feel that architecture is just one of many different forms of beauty and that he who is not able to recognize and appreciate beauty of many kinds has just so much poorer chance of creating a kind of beauty in his own craft that will satisfy the majority of discriminating people.

ALL ABOARD FOR THE ISLANDS. THE SMILING YOUTH IN THE NATTY OUTING SUIT IS ELMER GREY

NATIVE HOUSES IN THE SOUTH SEA ISLANDS
Photo by Elmer Grey

But to get back to the trip:—I had secured a letter of introduction to the captain of the steamer and presented it soon after getting aboard. As I entered his cabin he was standing in front of a desk upon which were scattered several opened letters. He remarked that he had received some other introductions from passengers and that they promised to give us very pleasant companionship on the journey. Then, by way of making conversation, he picked up one and said, "Here is one from a rear-admiral in the United States Navy, introducing a Mrs. Harry Jones who is a young and attractive widow, a daughter of John Hays Harris, Chief Justice of the Supreme Court of Nevada. The rear-admiral writes, 'Take good care of her and bring her safely back to San Francisco.' I wonder what he means by that. Of course I will, so far as I am able to." He volunteered to see that I met her soon and shortly afterward brought about the introduction.

She was slim of figure and delicately modeled like an exquisite piece of Dresden china—but also somewhat like china, her face had a peculiar pallor that made me wonder what caused it. She was interested in art, had at one time a studio in San Francisco and we soon became fast friends.

The second day out at about the noon hour we were standing together at the rail when the dinner gong sounded. She sighed and remarked, "Oh dear, there's that terrible dinner hour again." I was surprised because she had been given the honor of being placed next to the captain at his table. I asked whether she did not like his company, to which she replied, "Yes, but it is a strain nevertheless." That made me even more curious and I pressed her for further explanation which she seemed reluctant to

give. Finally she declared that she found it difficult to keep up her end of the conversation at the table. I was amazed. Here was a young woman whose father's position assured her every social advantage and yet who admitted difficulty in the exercise of the very faculties which most women in that class pride themselves upon. I could not understand.

"But tell me," I said, "You enjoy people and I know that you are equal to any imaginable social situation. Why can you possibly dread the dinner hour on such a delightful voyage as this?"

She looked out over the water and was silent—and for a long time remained so.

Then suddenly she turned and with a peculiarly sad look on her face said, "I will tell you why I feel as I do. Please keep it strictly to yourself. I am traveling with my sister as you know, and I told you that I was taking this trip for my health which is true—but it is only a part of the truth. I don't know why I am telling you this! Something seems to prompt me to do so. Some people smoke or drink to excess, but I—I—I have come to take a certain drug to excess! I haven't been taking it long, but it seems to be getting me! They are sending me on this trip as a cure, and they suppose that I have none of the stuff with me. But I have plenty hidden away in my trunk and before each meal I take a dose to brace me for the conversation at the table. Afterwards there is a terrible reaction and I have awful spells of melancholia. Between you and me I don't believe San Francisco will ever see me again! One of these days when one of these terrible spells is upon me I shall be tempted to . . . . . Oh, the sea would be better than such agony!"

What could I say! We looked out upon the water and both were silent for many minutes. Finally, for want of a better thing to do, I placed my hand upon her arm and said, "We will be late for dinner. Let us go." The next installment will tell of how this surprising announcement grew into a complicated and very tragic situation.

(To be continued)

A TRIBUTE TO DR. STEINHOF

By Wm. L. Woollett

WE are ennobled by the greatest of all human playthings—art. When a messenger bearings news of art of a new age appears we treat him as we would some ambassador from the Court of Kings.

When Dr. Steinhof was here in Los Angeles I could absorb only some of him at a time. One can remain in a great gallery only a little while. The stimulation is too great; and so I am looking forward to Dr. Steinhof's book. Quiet hours of meditation are stored there for the lover of beauty and the student of art.

Dr. Steinhof requires no "authentic" dissertation on analytical art subjects from his admirers. The public certainly does not need to be informed. But honor to whom honor—tribute to whom tribute. The students of art in this great country honor this man. And it is in the nature of hospitality to flavor the honors with appreciation of his peculiar personal charm. This gentleman of Vienna—who contributes the flexible easy charm so characteristic of his native city, puts over his psyche with subtlety and a mighty force. His personality speaks of much older civilizations. If you are a psycho-analyist, or an anthropologist, you will, after one look at the skull formation of Dr. Steinhof, put him down as Rameses II.

I have a good friend, an architect, who always means Hans Holbein to me. My architect friend looks just like that splendid old Dutchman. He is Dutch, and Dr. Steinhof makes me think of Rameses II. I am not so sure that I understand Dr. Steinhof's remarks about the sculptures of antiquity — they are etched on the background of my hope.

Dr. Steinhof asks us to appreciate art for the abstract values as we sense them, untrammeled by historic impediments and unfettered, save for our own illusions as to space sense and plastic terminology. I feel a little "unfinished" when I attempt to put Dr. Steinhof's philosophy into my own

words. It is like new wine in old bottles. However, I will go on.

The plain fact is that Dr. Steinhof's work is so full of stimulous that there is no end to the effectiveness of his news. I find myself writing an essay on the subject opened up by the first paragraph of his proposed book, to which I have referred in the early part of this paper:—"The idea which intrigues me is the influence of the psychic method of historical research in art." I am quoting from memory, not the exact words. Personally, I like history. I think that a good historian should make a good artist. I like analysis, and I enjoy the way things are put together; but I see as one sees through a glass—darkly—that there is a fundamental science of all things—quote Confucius — upon which the genius — the creative genius leans—when he steps down to the finite for a new world—for birth of a living creation. So the stand of Dr. Steinhof for "Spontaneous creative deeds", empirically born of talent, fantasy and courage, relying on the fundamentals of the science to which they belong, is real to me —but real as a mirage is real.

Since some are made to make spades and shovels, some must make delicate airs played on singing strings. The spade and shovel stage of art is the science of art—necessary. That is the stage which I am trying to understand. Dr. Steinhof knows of himself intimately all of this background; the science of art is his without effort. His mind and spirit are free to express the illumitable spaces of the abstract. Therefore, he dwells upon this phase—the final phase —the quest of all art teaching.

The psychological aspect of Dr. Eugene G. Steinhof of Vienna will be measured by the age toward which the future will be pointing—a golden age. "The golden Age of Pericles Reborn". Like painted ships upon a painted ocean. So to that coming age he comes as the unreal to the real—the temporal to the spiritual. In the Indian language of North America Dr. Steinholf would be called "Big Shot in the Desert".

Without a doubt the idea that Dr. Steinhof is emphasizing in his lectures, and which will be elaborated in a book just about to go to press, will establish a new horizon in art education.

A group of the foremost architects in New York City is endeavoring to persuade Dr. Steinhof to found a school for the formation of his theories in art education.

Dr. Steinhof came to the Coast under the auspices of the Carnegie Art Center. Most of his time was spent at the University of Oregon. The outstanding work which he did at that point has been supplemented by a series of lectures given in the various universities of the Pacific slope. He has also lectured and taught practically throughout the civilized world, having just returned from a lengthy sojourn in South America.

SKETCH BY EDWIN L. SNYDER

ENGINEERING AND BUILDING CONSTRUCTION

CONCRETE CONTROL ENCOURAGED BY BUILDING CODES

by
H. M. HADLEY*

ADOPTION of a revised section of the building code for reinforced-concrete construction by Portland, Ore., establishing two classes of concrete work, with corresponding values of working stress, emphasizes this plan which has been in successful operation in Seattle for more than a decade. The purpose of the code provision is to allow safe working stresses for concrete mixed according to definite proportions with only nominal inspection and to encourage better concrete practice, whenever economically feasible, by raising the allowable working stresses for concrete mixed with careful control of the w/c ratio under continuous technical supervision.

It is generally customary for building codes to provide but one class of concrete, with one set of working stresses. These stresses, of necessity, must apply to work that may be improperly done as well as to that which is controlled and carefully executed; they must be average working stresses. As such they really penalize and offer no encouragement to good work, while at the same time they may be unduly liberal with respect to poor and careless work. There is no way to avoid this situation with a single standard classification.

Seattle, Wash., was the first city to adopt two classes of concrete based essentially on control and supervision. The 1921 revision of its code followed closely the current Joint Committee recommendations, but it required the presence of a qualified concrete supervisor on all work employing the higher stresses, which were considerably above those previously allowed. Selection of the supervisor could be made by the architect from a list of those who had successfully passed an examination for the position given by the building department. This inspector, paid by the owner, reported daily to the building department and could be removed for cause by the department. Testing of all materials entering into the work was also required.

This type of concreting operations, including the services of a supervisor and the testing of materials, was not mandatory,

*Mr. Hadley is regional structural engineer for the Portland Cement Association. A new uniform building code is now under consideration in San Francisco and the suggestion has been made that the Seattle and Portland Codes, with particular reference to concrete control, might be followed to a more or less extent.

however. If a job was small or, even in the case of a large job, if the owner preferred not to incur the expense of supervision and testing, he was free to proceed without what he might regard as unnecessary restrictions. For such work, however, section 427 of the Seattle code states, "The ultimate strength of concrete not under exper supervision shall be assumed as 75 per cent of that given in the above table." This requirement results, of course, in heavier concrete sections and increased reinforcement in lieu of the more careful control and supervision. It is decidedly to the owner's interest in any work of magnitude, not only with respect to first cost but also with respect to the quality of the finished building, to have the concrete work supervised and to take advantage of the higher working stresses. The city, concerned with public safety, likewise is assured of a better quality of work by this arrangement.

The successful experience in Seattle in more than ten years' use of this plan had its influence upon the new Portland code, section 208 of which states:

> . . . . . "Reinforced concrete may be designed, mixed and proportioned in either one of two systems: one where the cement, sand and coarse aggregate are mixed in definite proportions such as 1-2-4 or 1-3-5, etc., meaning one part of Portland cement, two parts of sand and four parts of gravel, etc.; or two, where the concrete mixing and placing is carefully supervised and with control of the ratio of the amount of water to the amount of cement used."

The usual requirements and safeguards regarding materials, mixing, placing, etc., are set forth. However, for concrete on the basis of "definite proportions" no special inspection requirements are established by the code.

For "water-cement ratio concrete and control," section 232 (*a*) recognizes two classes of this concrete: first, that which is based on established results with average materials customarily used in Portland; second, a class where special advance and preliminary tests are made on special mixes, and an increased amount of testing is done during the progress of the work. Both classes of this concrete require the continuous supervision of a qualified and experienced supervisor,

> . . . . . "who shall be paid by the owner and shall work under the direction of the Bureau of Buildings . . . . . the supervisor shall be a person thoroughly qualified by training and experience in the theory and construction of reinforced-concrete structures . . . . . (he shall) have direct control of all factors, other than the design, which affect the strength of the concrete of the structure.
>
> "It shall be unlawful for any person to place any concrete in a structure requiring supervision unless there be present a regularly appointed supervisor. . . . . It shall be unlawful for a contractor to carry on his work . . . . . contrary to the instructions of the supervisor. If the contractor fails to carry on his work in a proper manner, the supervisor shall order the work stopped."

The table compares the principal permitted working stresses in sections 216 and 236 of the new Portland code for a 1:6 mix on the "definite proportions" basis without special supervision and for a 7½-

WORKING STRESSES ALLOWED BY NEW CODE

(For concrete with ultimate strength of about 2,000 lb. per sq.in.)

	"Definite Proportions" Lb. Per Sq. In.	"Wate-Cement Ratio-Concrete and Control" Lb. Per Sq. In.
Steel		
Tension	16,000	18,000
Concrete		
Flexure—Compression	650	800
Flexure—Compression adjacent to support	750	900
Shear		
—plain concrete	40	40
—"punching"	120	....
—with web reinforcement and anchorage for longitudinal steel	.....	180
Bond		
—plain bars	80	80
—deformed	100	100
Axial compression		
—plain, rodded columns	450	450
—spiralled columns	.....	.....
	300	$(0.10 + 4\,p)\,f'c$

gal. w/c concrete with supervision. These mixes may both be assumed to produce about 2,000-lb. concrete.

For a "definite proportions" concrete with a mix of 1:3 the working stresses are permitted to be increased 20 per cent, e.g., the 650 compressive stress would be increased to 780 lbs. For a 6-gal. "w/c ratio concrete," controlled and supervised, with approximate proportions of 1:4 and a strength of about 3,000 lb., the stresses given in the table would be increased 50 per cent, e.g., the 800-lb. compressive stress would be increased to 1,200 lb.

This evaluation of concrete construction on the basis of control and supervision exercised is fundamentally sound and in accordance with the principle that higher working stresses should be allowed on work that is carefully done. It provides encouragement and incentive for that kind of work. On the other hand, it is equally proper that work not as carefully controlled should be safeguarded by appropriately lower stresses and an increase in the quantoties of materials. Just as inspection and grading marks establish degrees of quality in lumber or as label service assures quality in insurance ratings, so does proper and adequate field inspection of concrete furnish a warranted basis for increased and higher working stresses.

AUTOMATIC DRAFT CONTROL FOR SMALL BOILER PLANTS

by
JAMES R. FERGUSON

AN interesting development has recently been perfected for the promotion of economical operation of gas-fired steam boiler installations wherever they are used for heating. It is a practical extension of the automatic control features which are peculiarly adaptable to the use of this fuel.

During the past few years, considerable progress has been made in the design and development of efficient gas burning equipment so that at the present time there are several dependable makes of gas burners available. Until recently, however, the problem of automatically maintaining high combustion efficiency over a wide range of boiler loads had not been satisfactorily solved to the point where the average small boiler plant operator could justify the initial expense of the installation of automatic draft control.

The advantage of controlling the flow of gas to the gas burner under a steam boiler by means of a gas fuel regulator has now received widespread recognition and is practically standard practice. Gas fuel regulators are controlled by steam pressure. The actuating pressure connection to the diaphragm is taken from the steam header. While steam pressure remains below the pressure setting of the regulator, the valve is held full open by the tension of the long coil springs. If the steam pressure increases, it acts on the regulator diaphragm to partly close the valve and cut down the fuel supply to the burner.

The results obtained from gas fuel regulators have been eminently satisfactory and have answered every requirement for the service for which they were intended. To those interested in obtaining an even higher efficiency in the utilization of natural gas for boiler fuel, it has been increasingly apparent, however, that if it is sound practice to control the flow of gas in accord-

ance with steam pressure demands, some provision should also be made for accurate control of the flow of air.

Any gas burner is, primarily, a mechanism for the admission and intimate mixture of air with the gas. Combustion efficiency

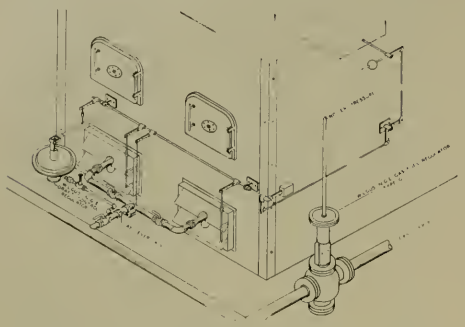


DIAGRAM OF BOILER INSTALLATION, SHOWING AUTOMATIC DRAFT CONTROL EQUIPMENT

depends upon the effectiveness of the burner in these two functions. Assuming complete combustion and correct heat application, overall boiler efficiency will be in proportion to the relation maintained between the air theoretically necessary for the combustion of the fuel and the amount actually admitted.

In recognition of the importance of this fundamental principle, gas fuel and draft control should be so combined as to be capable of controlling the fuel and air in correct proportion for any demand, at maximum combustion efficiency.

A simple and effective method of maintaining the correct proportions of air and gas, with resultant high combustion efficiency over a wide range of boiler loads, is indicated in the accompanying diagram.

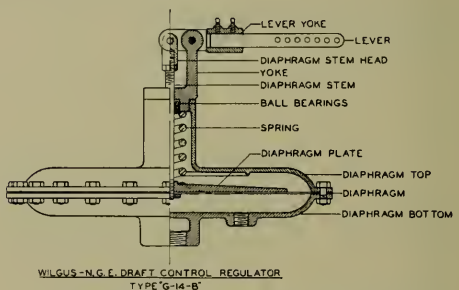
This system, which is ball bearing operated throughout, consists essentially of:

(a) A standard type of gas fuel regulator, with four port valves.
(b) A diaphragm draft control regulator designed with ample power and stroke for operation of main jack shaft.
(c) Lever gas valve.
(d) Ball bearing operated shaft wall brackets and bell cranks, and levers, turnbuckles and connecting linkage.

The operation of this system is as follows, when installed in accordance with the accompanying diagram.

The flow of gas is primarily controlled by the gas fuel regulator in accordance with the steam demands upon the boiler. The fluctuations in gas flow obtained are transmitted to the diaphragm of the draft control regulator. The lever of the draft control regulator operates a $\frac{3}{4}$" cold rolled steel shaft mounted on the boiler front in ball bearing brackets. To this shaft are connected, by a system of levers and turnbuckles, a lever gas valve, the stack damper and the louvre doors of the gas burners, so synchronized that any variations in steam demands will operate the gas valve, stack damper and louvre doors of the gas burners.

The design of this system of gas fuel and draft control has been worked out and perfected with the following important considerations in mind:



DIAPHRAGM OF BOILER INSTALLATION

A. Safety.
B. Power available for successful operation.
C. Adjustment.
D. Adaptability.

The hazards encountered in the operation of poorly designed damper equipment are obvious. For this reason, the prime consideration should be safety. In the system described above, through use of the lever gas valve, it is impossible to obtain the flow of gas to the boiler without operating at the same time the louvre doors of the gas burners and the stack dampers. This is a feature of importance.

To meet varying degrees of power available for operating the equipment, the system utilizes ball bearings throughout, practically eliminating friction and in addition, a very large size diaphragm is used on the draft control regulator which responds immediately to the slightest change in pressure.

In order to accurately maintain the correct proportions of air and gas over all boiler loads, it is also important that a damper control system be very flexible in the matter of adjustment. In this system, a wide range of adjustment has been provided by simply changing the leverage. For example, should it be required to obtain the full opening of the louvre doors of the gas burners on a very slight change in gas pressure, this may be accomplished and at the same time the stack damper may be set so that very little change in position is obtained with a slight change in pressure. In placing this system of draft control in operation, it is essential to take stack gas analysis over the entire range of loads in order to obtain maximum combustion efficiency for all demands.

One of the salient features of this system of draft control is its adaptability to all types and sizes of boilers. For some time, draft control equipment has been available for the larger boilers, but the same system could not be successfully applied to the smaller plants because of the size of the initial investment required which could not be justified in fuel savings. However, the apparatus is now applicable to boilers of practically any size, from 15 to 750 horsepower.

The availability of this draft control equipment is not only making the use of gas fuel more economical, but is reducing the fuel costs of already existing gas-fired installations. Especially is this true where varying loads are encountered; savings as high as 30% have actually been realized. The savings on a boiler supplying a uniform load is, of course, somewhat less, but nevertheless has justified the installation on every plant where it has been made.

Following is an actual combustion analysis, which indicates the results to be obtained by the application of gas fuel and damper control for varying load boilers. Stack gas analyses were made with the gas pressure on the burners at ¾ pounds, 1.5 pounds and 2.50 pounds.

Gas Pressure at Burner

	2.75 lbs. (Heavy Load)	1.5 lbs. (Average Load)	.75 lbs. (Light Load)
CO^2	10.6%	10.2%	9.8%
O^2	2.8%	3.2%	3.4%
CO	0.0%	0.0%	0.0%
Slack Temperature	540° F	515° F	475° F
Stack Draft	.08″	.05″	.03″
Steam Pressure	125 lbs.	125 lbs.	125 lbs.
Gas Per Hour	4960c/f	3680c/f	2560c f

TO ENFORCE ENGINEERS' LAW

The following cases in which prosecutions for violations of the Engineers' Registration Law were undertaken by the State Board of Registration for Civil Engineers, are reported by H. M. Jones, secretary of the board:

"Preston M. Jones, of Los Angeles who had allowed his registration to lapse as of June 30, 1932, prepared structural plans for the J. C. Penny Company's store at Riverside. The city building department at Riverside returned the plans because they had not been prepared by a registered civil engineer, and this board was notified. As a result, a complaint was filed and Mr. Jones made the plea of 'guilty' in the municipal court in Los Angeles where the plans had been made February 7, 1933. A sentence of thirty days in jail was imposed and suspended upon the condition that the defendant renew his certificate and not again practice in violation of the Act.

"As a result of assuming responsible charge for the design and construction of the grandstand at the Compton dog track, Vern Ostendorf of Colton was taken before the justice of the peace at Compton, for practicing civil engineering without being registered. He entered a plea of 'guilty' and was fined $1.00 and sentenced to serve fifty days in the county jail. Certain mitigating circumstances were responsible for the suspension of the fine and sentence upon the promise to comply with the law."

LAYING CORNER STONE OF NEW BUILDINGS FOR DEPARTMENTS OF LABOR AND INTER-STATE COMMERCE, WASHINGTON, D. C.

Arthur Brown, Jr., Architect

L. A. Cruse and Fred Cramer, members of Mr. Brown's staff, are in the audience. President Hoover is before the microphone.

SAYS USE MORE STEEL

Steel piers, steel foundations, steel walls, steel floors, steel residences are ready for the market. They will be cheaper and will make for better construction, declared Charles F. Abbott of New York, executive director of the American Institute of Steel Construction in an address before the Ninth Annual Conference of the Iron, Steel and Allied Industries of California at Del Monte, California, February 9. Mr. Abbott said that these improvements in steel construction, developed from the intensive research of the past years of the depression, represent the industry's program to bring its business back to a prosperous basis.

OUTSIDE CONTRACTORS AGAIN

Out-of-town contractors have again been successful in bidding for San Francisco public work. Three Chicago contracting firms each submitted the lowest bids for the new $3,000,000 Federal building in the Civic Center; all considerably less than the bids of San Francisco concerns. It is hoped every effort will be made to induce the successful Chicago contractor on this job to employ local labor and sublet, as far as possible, departmental contracts to San Francisco firms. If this method is followed the Bay region will benefit by the expenditure of several million dollars by the Federal Government; otherwise, the benefits will go elsewhere.

« « « « With the Architects » » » »

SAN FRANCISCO MUNICIPAL WORK

The office of City Architect Charles Sawyer, San Francisco, is busy on important remodeling work intended to provide for the centralization of the Department of Education. Quarters of the Board of Education are now scattered in several different buildings. The plan is to centralize the offices on the third and fourth floors of the Municipal Auditorium. Plans for remodeling these two floors, at a cost of $26,000, are in progress.

The Adams School Annex on Ellis Street, now used by the Board of Education, will be remodeled and occupied by the Bush Street branch police station. To make this building available for police department needs, it will be necessary to remodel the ground floor, install a new heating plant, construct two cells and provide a shelter for the patrol wagon.

CANNOT DO WITHOUT IT

48 Oakdale Avenue,
Berkeley, Calif.

The Architect and Engineer, Inc.,
1662 Russ Building,
San Francisco.

Gentlemen:

Enclosed please find check for the renewal of my subscription. Altho this is a bit late, I am sending it as I have discovered that, good times or no, I must have your magazine if possible.

Very truly yours,

ARTHUR F. DUDMAN.

OAKLAND STORE BUILDING

A contract has been awarded to F. A. Muller to build a steel frame and concrete store building at 22nd Street and Broadway, Oakland, for E. H. and J. A. Clark. The location is a portion of the site of the old Key Route Inn. The building will cover ground area, 45x100 feet, and will have seven stores.

SACRAMENTO SCHOOL BUILDING

Plans have been completed by Harry J. Devine, architect of Sacramento, for a $100,000 brick school building for the Grant Union High School District. Bids for the construction of this building will be received March 27th.

OAKLAND ARCHITECT BUSY

Charles E. Perry, formerly of Vallejo, now located at 540 Alcatraz Avenue, Oakland, is busy on plans for several residences. He has completed drawings for a dwelling at Crockett for A. Valli of the Crockett Emporium and he is at work on plans for a Spanish patio type home at Vallejo to cost $7500 for an unnamed client and a two story English residence in Vallejo for $6000.

EMPORIUM IMPROVEMENTS

The Emporium, San Francisco, will spend about $100,000 on immediate improvements. The work will include a tunnel under Jessie Street and a bridge across Jessie Street from The Emporium Building to the Hulse-Bradford Building; also, a one-story reinforced concrete warehouse on Mission Street, and a steel and concrete bridge connecting The Emporium with the Red Cross Building.

APARTMENT BUILDING

Plans are being prepared by R. R. Irvine, architect, 2048 Market Street, San Francisco, for a $60,000 apartment building of frame construction to be built on the north east corner of Fillmore and North Point Streets, San Francisco, for Ben Leebman. There will be eighteen two, three and four room apartments.

DALY CITY SCHOOL

Revised plans for a two story reinforced concrete addition to the Jefferson Union High School Building at Daly City, have been completed by Reising & McGuinness, architects, 488 Pine Street, San Francisco. Bids are being taken for the $50,000 structure, and contracts are expected to be awarded early next month.

FRAME APARTMENT HOUSE

A four story and basement stucco apartment building will be erected on West Portal Avenue, east of 14th Avenue, San Francisco, by Mrs. Fernandez Nelson from plans by H. C. Baumann, architect, 351 Kearny Street, San Francisco. There will be twelve two and three room apartments. The approximate cost is $40,000.

POST OFFICE COMMISSIONS

Recent commissions to prepare plans for Post Office Buildings in California have been handed out by the Treasury Department at Washington to the following architects:—

Claude Beelman, 1019 Union Bank Building, Los Angeles; Post Office Building at Hollywood, $300,000.

Gordon B. Kaufmann, 610 Union Bank Building, Los Angeles; Federal Building at Long Beach, $450,000.

Henry Carlton Newton and Robert Dennis Murray, Architects' Building, Los Angeles; Post Office Building, Santa Monica, $225,000.

S. Heiman, Santa Fe Building, San Francisco; Post Office Building at Lodi, $105,000.

Bliss & Fairweather, Balboa Building, San Francisco; Post Office Building, Hayward, $100,000.

Ernest J. Kump, Fresno; Post Office Building, Madera, $90,000.

O'Brien & Peugh, 333 Montgomery Street, San Francisco; Post Office Building, Salinas.

Albert F. Roller, Crocker-First National Bank Building, San Francisco, Post Office Building, Redding, $100,000.

DEMAND FOR FEBRUARY NUMBER

The following letter is one of several received last month in praise of the February issue and for which the publishers are deeply grateful:

THE ARCHITECT AND ENGINEER,
San Francisco, California.
Gentlemen:

The people who come into my office are so pleased with your February number, and so clamoring for it that I must have six more copies, if you can send them.

Upon receipt of same I shall remit. Thank you.

Sincerely yours,
CHARLES G. ADAMS,
Landscape Architect.

ARCHITECT FILES SUIT

Eugene K. Martin, former Berkeley and Bakersfield architect, has sued for $500 monthly separate maintenance from his wealthy wife, Eula, in the San Bernardino courts. Martin, graduate of University of Berlin, complained his wife failed to aid him when he lost his fortune, and that he was compelled to beg money from friends to "get a postage stamp or a haircut."

REDWOOD CITY RESIDENCE

J. K. Ballentine, 77 Harlem Place, San Francisco, has completed plans for a two story frame and stucco residence to be built at Redwood City for A. B. Cheatham. The house will be Spanish design and will have a terra cotta tile roof.

MURAL WORK IS PRAISED

Upon completion of the five year contract with Dean Cornwell for mural decorations of the rotunda of the Los Angeles Public Library, the Board of Library Commissioners in the presence of a number of distinguished guests including Mayor John Porter and art leaders of the City, drew up the following resolution:

Dear Mr. Cornwell:

In awarding to you the contract for the mural decorations in the rotunda of the Los Angeles Public Library, we were actuated by the conviction that your preliminary sketches were incomparably superior to those of the other distinguished artists whose proposals were submitted for our consideration.

And in accepting your completed work, it is gratifying to us to assure you that our highest expectations have been more than realized.

Your long continued researches, patience and energy, combined with your consummate skill and fidelity and devotion to the highest ideals in art, are reflected in the superb coloring, fine technique, historical accuracy and transcendent beauty of your masterful paintings, which not only have our unqualified approbation but have won the acclaim and plaudits of the most exacting critics and connoisseurs.

We are keenly conscious of the fact that the monetary rewards which have accrued to you from this work are in no measure conmmensurate with its real value, but we indulge the hope that you will find true compensation for your splendid services in the knowledge that multitudes of people will be enriched by the harmony, beauty and spiritual qualities which have found expression through your genius.

BAY BRIDGE ARCHITECTURE

At a meeting held in San Francisco, January 31, the Northern California Chapter of The American Institute of Architects went on record by unanimous vote to the following effect:

"That it is imperatively necessary for the future interests of San Francisco, Oakland, the Metropolitan Area and the entire State of California for the new San Francisco Bay Bridge to have the benefit of competent architectural service in the study and carrying out of its design. Such service can only be rendered by an architect or architects of recognized ability and standing.

"In this connection, certain vital facts must be considered:

"1. That the California Toll Bridge Authority, for the people of California, is proceeding to carry into actual construction the greatest bridge project ever attempted in the history of man;

"2. That this structure will not only affect the physical appearance of the finest harbor in the world, but will establish the first impression of the two major cities facing each other on the shores of San Francisco Bay;

"3. That the entire Metropolitan Area has by various acts and efforts of its citizens definitely gone on record for the development of beauty in its public works, both utilitarian and monumental;

"4. That the entire State of California has the greatest pride in the quality and design of its public edifices, as well as in its far-famed scenic and natural heritage.

"5. That New York City has by her farsighted policy permanently established her fame as the largest metropolis in the world today, and, in no small measure, by linking her metropolitan areas with great bridge structures. In every case, architects of recognized ability and standing collaborated with the engineers in charge to accomplish works of outstanding beauty, utility and magnitude. The magnificence of the Williamsburg, Hell Gate and, more recently, the Washington Bridge across the Hudson, has been and will be associated for all time with the authors of their architectural designs, Carrere and Hastings, Henry Hornbostel, and Cass Gilbert.

"Those in charge of the Golden Gate Bridge have shown their understanding of this principle and precedent by engaging the able services of architects Morrow and Morrow to mould this gigantic structure into forms of beauty under the general direction of Chief Engineer Joseph B. Strauss.

"In view of these facts, we urge that the authorities who have responsible charge of this great project give their most earnest consideration to this important phase of the undertaking and give to the public at an early date assurance that the architectural design and appearance of the bridge will be adequately safeguarded."

GOOD 1933 PROSPECTS

Folger Johnson and C. H. Wallwork, architects, United States Bank Building, Portland, have on hand good prospects for three projects this year, —a hotel estimated to cost $250,000, a hotel alteration listed at $20,000, and a store and apartment building which calls for a $10,000 investment.

'PHONE EXCHANGE ADDITION

The Pacific Telephone & Telegraph Company will build a two story and basement brick addition to the Bush and Larkin Streets Exchange from plans by E. V. Cobby, 140 New Montgomery Street, San Francisco. The contract for the structural steel has been awarded to the Judson-Pacific Company.

SAN FRANCISCO JAIL

Until March 29th bids will be received by the San Francisco Board of Public Works for the construction of a Class A reinforced concrete city and county jail in San Mateo County.

PERSONAL

Donnell E. Jaekle, 714 Call Building, San Francisco, has been granted a provisional certificate to practice architecture, by the California State Board of Architectural Examiners, Northern District.

The firm of Clausen and Amandes, architects, has been dissolved, and C. O. Clausen will continue the practice of architecture under his own name at the attractive studios, 746-46th Avenue, San Francisco. Recent work in Mr. Clausen's office includes a one story reinforced concrete printing plant on Harrison Street for the Daily Racing Form.

W. G. Brust, architect of Seattle, has moved his studio to his home, 6223 Palatine Avenue, Seattle. He has been retained to prepare plans for the proposed new Stockade Hotel at Alki Point, Seattle.

William J. Bain, architect, with offices at 1715 Yale Avenue, Seattle, has recently prepared the plans for an addition to the Albe mansion at Lake Burien, which will provide a new home for the Ruth School of Girls.

C. N. Freeman, architect of Portland, who is a specialist in school design, is supervising the construction of a new $15,000 building for the Sylvan District.

A. M. Edelman and A. C. Zimmerman, architects, have moved from 824 H. W. Hellman Building to 709 H. W. Hellman Building, Los Angeles.

Dougan-Reverman, Inc., architectural firm of Portland, has moved from the Kraemer Building, where the two partners have been located for some years, to the Studio Building, Taylor Street at Park, Portland.

J. Leo Fairbanks, professor of art at Oregon State College, Corvallis, Oregon, was recently elected to membership in the Architectural League of New York. Professor Fairbanks' paintings have been consistent winners in gallery competitions in Portland and other art centers.

B. Dudley Stuart, veteran Seattle architect, has moved his office from the Walker Building to 5111 Arcade Building. He is active as a designer of residences, apartment houses and commercial hotels.

James Monroe Taylor, Jr., architect, 2042 Boylston Avenue North, Seattle, has taken desk space in Mr. Stuart's office.

LOS ANGELES BREWERY

Preliminary plans are being prepared by Claude Beelman, Union Bank Building, Los Angeles, for a brewery at 11th Street and Santa Fe Avenue, Los Angeles, for the Hauser Brewing Company.

PLANT OF THE PACIFIC PORTLAND CEMENT COMPANY, REDWOOD CITY, CALIFORNIA, WHERE ALL THE CEMENT FOR THE GOLDEN GATE BRIDGE WILL BE MANUFACTURED

THE task of supplying materials—thousands of tons of steel, cement, sand and rock—for the Golden Gate bridge occupies the attention of leading Pacific Coast companies whose contracts will tax plant facilities to the limit for months.

Approximately 350,000 cu. yds. of concrete will be mixed by Golden Gate Atlas Materials Company, a subsidiary of Pacific Coast Aggregates, Inc., for the piers and anchorages of the span. From the plant of Pacific Portland Cement Company at Redwood City will come 1,800,000 barrels of cement.

The bridge will furnish 27,000,000 man hours of labor at the site and in shops and mills, statisticians estimate.

Among the most interesting features of the material delivery will be in the handling of the tons of cement on which the Pacific Portland Cement Company already has commenced production at Redwood City.

Cement will be loaded on barges at the mill. These will be towed to the sites of two batching plants near the anchorages on opposite sides of the Golden Gate. From the barges the bulk cement will be sucked by pipes into huge concrete silos.

From the batching plants rotary mixers mounted on trucks will be used to carry the concrete a distance of from one-half to two miles to hoppers. The trucks will run over a trestle 1500 feet long, extending into the center of the Golden Gate. These truck mixers will travel from the plant on the San Francisco side to the site of the anchorage and on the Marin side trucks will climb over the hill above the shore line where the Marin anchorage is located.

The economical plan for handling the huge quantities of cement in bulk for the Golden Gate bridge was originated by J. A. McCarthy, vice president and general manager of the Pacific Portland Cement Company, and Charles M. Cadman, president of Pacific Coast Aggregates, both veterans in the materials business.

The plants were designed by Messrs. McCarthy and Cadman to reduce the handling of materials to a minimum and to utilize the most modern mechanical equipment ever brought to the Coast. Consideration in award of the contracts to Pacific Portland Cement Company and Golden Gate Atlas Materials, Inc., was given to the ability of these concerns to provide necessary equipment essential to the exceptionally large undertaking.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 75c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 65c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $19.50 per M (average).
Common O.P. select, average, $25.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	42.00 per M
1x4 No. 2 flooring	36.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$30.00 per M
1x4 No. 3 flooring	26.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.75 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.		
1 1-16x2¼" T & G Maple	117.00 M ft.		
⅞x3½ sq. edge Maple	110.00 M ft.		
	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$168 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.35 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $65.00 per 1000. R. W., $75.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $4.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $4.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead In Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$ .85 lineal foot
8-inch	1.25 lineal foot
10-inch	1.40 lineal foot
12-inch	1.60 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.6-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.35 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $50.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $16.00 to $25.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural
$78 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $71 to $75 per ton cost of steel; average building, $77.00.

Steel Reinforcing—
$68.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective an all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not app'y to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

Chapter and Club Meetings

SAN FRANCISCO CHAPTER

The monthly meeting of the Northern California Chapter, A.I.A., was held at the Cafe Marquard, San Francisco, on Tuesday evening, January 31, President John J. Donovan presiding.

The minutes of the previous meeting were approved as published.

Mr. Donovan introduced David Bridgman Clark, newly elected Associate of the Chapter.

The following proposed amendment to the by-laws was introduced by the committee on education, Irving F. Morrow, chairman;

Article IV—Section 8—Education Fund

Thereby is created an Education Fund which is inaugurated to include the fund in the treasury commonly known by this name at the time of the adoption of this amendment. This fund shall be administered by the committee on education and shall be kept by the treasurer in a separate interest-bearing account. Under no circumstances shall the principal of this fund or any portion thereof be withdrawn or in any way used; and no interest thereon shall be withdrawn or used before the principal of the fund shall have reached the sum of Two Thousand Five Hundred Dollars ($2,500.00). Income from this fund shall be used only for purposes clearly connected with the education of students in architecture. No disbursement shall be made without the written authorization of the committee on education.

It was instructed that the proposed change be published to every member as required in the by-laws.

A suggestion from R. J. Ashton, A.I.A. director, West Mountain Division, that a regional conference be held in San Francisco, in lieu of the general convention of the Institute, was discussed. It was felt that such a conference would be of little benefit and was not endorsed.

Mr. Donovan reported the action of the board of directors in continuing its effort to have public buildings designed by architects in private practice. A copy of the telegram pertaining thereto and sent to President-Elect Roosevelt was read. A motion endorsing the action of the board was made by Mr. Bakewell and carried.

The following resolution was introduced by Mr. Fairweather, who moved its adoption with Mr. Kent seconding it:

WHEREAS, Due to the general reduction in building and land values and reduced cost of construction in San Francisco.

THEREFORE, Be it resolved that the Northern California Chapter, the American Institute of Architects, petition the Assessor of San Francisco to make a re-survey of the San Francisco buildings and land values with a view of reducing the assessed valuation of same so as to stimulate action in building.

An amendment thereto, that a copy of the resolution be sent to the State Association of California Architects with the request that it be transmitted to each District Society, was made by Mr. Kent and accepted. With this modification, the resolution was voted upon and passed.

A proposed kitchen competition program to be held by the General Electric Company was referred to the small house committee of the State Association for an opinion. Subject to its approval, the Chapter will respond as requested.

At the request of the Federation of Arts, endorsement was made of the proposed widening of Fulton Street, westerly from the Civic Center, San Francisco. The resolution of endorsement was drafted in committee and approved.

Mr. Donovan asked Mr. Jeans, vice-president, to preside in his place and the meeting was conducted thereafter under this chairmanship.

A discussion was held of ways to aid needy draftsmen. At Mr. Donovan's suggestion, it was directed that an emergency relief committee be appointed to cooperate with the State Association in promotion of this cause. Messrs. Stringham, Fairweather and Bakewell were appointed thereon.

In a discussion of Institute and Chapter dues, Mr. Evers urged that a strong presentation be made to the Institute to treat delinquent members with leniency and reduce dues, if possible. His motion to this effect was carried.

Mr. Evers spoke on the necessity of proper architectural consultation on the San Francisco Bay Bridge, if its appearance is to be safeguarded. At his suggestion, a committee was authorized to study the matter and present a resolution to the board of directors for approval. Messrs. Kent, Evers and Allen were appointed as this committee. The board of directors was authorized to accept the resolution as being the sense of the meeting and it was further instructed to transmit same to the California Toll Bridge Authority and others connected therewith.—J.H.M.

WASHINGTON STATE CHAPTER

The regular monthly Chapter meeting was held in the Gold room of the New Washington Hotel, Seattle, Thursday, February 9.

The minutes of the annual meeting and of the preceding regular meeting were read by the secretary and approved. Following this the secretary read a letter from the Chicago Chapter, asking endorsement of Alfred Hoyt Grainger, A.I.A., for Assistant Secretary of the Treasury in charge of Public Works. The endorsement of the Washington State Chapter was unanimously voted and the secretary was instructed to telegraph President-elect Roosevelt to this effect.

The president read the committee appointments for 1933 as follows:

Standing Committees: Civic Design—Gowen, Chairman; Morrison, Bertelsen, Vice-Chairmen; Albertson, Myers.

Competition—Grant, Chairman; Mock, Pehrson, Vice-Chairman; Alden, Bockerman.

Education — Gould, Chairman; Gove, Smith, Vice-Chairmen; Baeder, Gowen, Mallis.

Exhibition—Stoddard, Chairman; Ekvall, Beeman, Vice-Chairmen; Bain, Chinn, Donald Thomas.

Institute Affairs—Borhek, Chairman; Weller, Vice-Chairman; Albertson, Ford.

Legislation—Vogel, Chairman; Young, Borhek, Wohleb, Lockman.

Ordinances—Lockman, Chairman; Bell, Bertelsen, Vice-Chairmen; Brust, Naramore.

Professional Practice—McClelland, Chairman; Whitehouse, Vice-Chairmen; Schack, Stoddard.

Public Information—Victor Jones, Chairman; Nelsen, Smith, Vice-Chairmen; Grainger, Priteca, Vogel.

Ways and Means—Priteca, Chairman; Mock, Maloney, Vice-Chairmen; Albertson, Bain.

Special Committees: Building Industry Contact —Harlan Thomas, Chairman; Borhek, Vice-Chairman; Ford, Graham.

Bulletin—Alden, Chairman; Rounds, Beeman, Vice-Chairmen; Johnson, Meredith Jones, Willatsen, Bindon.

City Planning—Alden, Chairman; Gove, Beeman, Vice-Chairmen; Williams.

Craftsmanship—Willatsen, Chairman; Russell, Whitehouse, Vice-Chairmen; Bergseth, Loveless.

Domestic Architecture—Bain, Chairman; Ivey, Loveless, Skoog.

Federal Buildings—Graham, Chairman; Bockerman, Lockman, Vogel, Wilson.

Honor Awards — Allen, Chairman; Gove, Mincy, Vice-Chairmen; Hinman, Reamer.

Lumber Industry Contact—Holmes, Chairman; Bell, Weller, Vice-Chairman; Albertson, Ford, Herrman.

Membership—Young, Chairman; Borhek, Beeman, Vice-Chairmen; Bain, Herrman, Stoddard.

Program—Donald Thomas, Chairman; Victor Jones, Meyers.

Reports from Chapter Committees being next in order, Mr. Stoddard, chairman of the exhibition committee, spoke of the proposed exhibition of small houses to be held at the Bon Marche, Seattle, and asked the co-operation of all members in collecting sketches, with costs of houses between $5,000 and $15,000.

President Holmes reported a movement sponsored by the American Institute of Architects, American Society of Civil Engineers, and Associated General Contractors of America, to introduce in the State Legislatures bills inaugurating building programs for public works for six years ahead, a local organization having been formed for this purpose, headed by Joseph Jacobs of the Seattle section of the American Society of Civil Engineers. After some discussion in which was brought out the idea that legislators should be shown the greater amount of employment per dollar in the construction of buildings than in other forms of construction, it was voted that the Chapter approve the movement and that the president be authorized to further legislation of this kind.

HOLDS FOUR MEETINGS

Four interesting sessions were held during the past month by the Tacoma Society of Architects with President Ernest T. Mock occupying the chair. Further action dealing with the proposed restoration of St. Luke's Church was held in abeyance pending the disposition of the legal contest between the church trustees and the wrecking contractor. The meetings are noted as follows:

January 16: Report on the proceedings of the Washington Chapter, A.I.A., in Seattle, by Ted Jacobsen, and a talk on technical building problems by Walter Nelson, president of the Tacoma Chapter, A.S.C.E.

January 23: "Proposed Construction of the Bridge Across The Narrows, Designed to Make a One-Mile Span Across Puget Sound" — by Llewellyn Evens, Supt. of the Tacoma Light Department and one of the incorporators of the bridge company.

January 30: Contest announced for the selection of the best house in the state of Washington to be conducted by a committee of the Washington Chapter, A.I.A.

February 6: "The Housing Exhibit Prepared for the Century of Progress Exposition, Chicago," by Edward A. Rich.

OREGON CHAPTER MEETING

The February 28th meeting of Oregon Chapter, A. I. A., was held at the Italian Tavern, those present being Messrs. Crowell, Church, Hemenway, Holford, Jacobberger, Johnson, Wallwork, Parker, Aandahl, Bean, Brookman, Sundeleaf, Doty and Howell. President Crowell presided. Minutes of the annual meeting were read and approved.

Mr. Aandahl reported for the Education Committee in reference to the proposal of Mr. Brigham to start a class of instruction for architectural draftsmen. A motion was made and twice amended, after which an extended discussion ensued. After the original motion had been withdrawn, it was moved by Mr. Aandahl, seconded by Hemenway and unanimously carried, that the entire matter be left with the executive committee, with power to act, and that the said committee take into consideration the points brought out in the discussion which were as follows:

(1). The Chapter approves a temporary class for architectural draftsmen as an emergency measure only.

(2). The Chapter to maintain supervision, select the instructor, if a suitable one can be obtained, and determine the personnel as well as the qualifications required of students.

Mr. Holford, chairman of the exhibition committee, reported that in case the exhibition of building materials is held at the Central Market, it can probably be arranged with Mr. Sroufe, manager of the market, so the Chapter can secure space for an exhibit without cost. The report was accepted.

Mr. Johnson read a letter from George Frederick Ashley, architect of San Francisco, asking that the Chapter support the proposed appointment of Sullivan Jones of New York to the position of Supervising Architect, Treasury Department.

Mr. Crowell read a letter from the Chicago Chapter asking for support for Alfred Granger, proposed for the position of Assistant Secretary of the Treasury in charge of Public Works.

It was moved by Mr. Doty and carried that the Chapter communicate by wire with the National Chairman of the Legislative Committee, A. I. A., as to what course the Chapter should pursue and whom it should endorse for the positions of Supervising Architect, Treasury Department, and Assistant Secretary of the Treasury in charge of Public Works.

It was moved by Mr. Holford, seconded by Mr. Doty and carried, that Mr. Crowell confer with Mr. Murphy, President of the O. B. C., and if found necessary, send telegrams to members of the Oregon delegation in Congress, urging passage of the Wagner Bill.—L. D. H.

SAN FRANCISCO ARCHITECTS MEET

The February meeting of the Northern California Chapter, A.I.A., was held at Marquard's, San Francisco, John J. Donovan, presiding.

Guests present were: Messrs. Adams, Hall, Hayne, Gould, Kierluff, Kruse and Mead. Mr. Donovan introduced the new members and guests.

Mr. Bakewell reported for the Unemployment Committee and presented a program of ways and means to afford relief to needy draftsmen. The report was accepted.

Mr. Evers, of the Bridge Consultants Committee, reported progress to date in connection with the effort to have competent architectural consultants engaged for the San Francisco Bay Bridge. The report was accepted.

Mr. Hall of John Roebling's Sons Company gave a talk on suspension bridges and showed motion pictures of the Washington Memorial Bridge.

GRANTED CERTIFICATES TO PRACTICE

At the regular meeting of the State Board of Architectural Examiners, Northern District, February 28, the following candidates were granted Provisional Certificates:

Edwin Bradley Mead, 2618 Etna Street, Berkeley; Edward John Maher, 3033 Wheeler Street, Berkeley; Edward W. Kress, 433 So. 12th Street, San Jose; James Donald Wickenden, 1408 Spring Way, Berkeley; Winfield Hadsell Hyde, 2458 Vallejo Street, San Francisco.

At the regular meeting of the State Board of Architectural Examiners, Southern District, February 28, Provisional Certificates were granted to the following:

Charles Hugh Gibbs, 3128 "B" Theresa, Long Beach; Miss Irene Margaret McFaul, Rt. 1, Box 887½, San Gabriel; Walter Chas. Wurdeman, 1108 W. P. Story Building, Los Angeles.

The next written examinations for a Certificate to Practice Architecture will be held June 12-15 inclusive.

HONOLULU CHAPTER

The Hawaii Chapter, American Institute of Architects, has named the following officers for the year 1933:

President: Hart Wood, Hawaiian Trust Building, Honolulu; Vice-President: Marcus C. Lester, Schuman Building, Honolulu; Secretary-Treasurer: Herbert C. Cayton, Damon Building, Honolulu; Members of the Executive Committee; Ralph A. Fishbourne, Stangenwald Building, and William C. Furer, Hawaiian Trust Building.

ENGINEERS' EXAMINATION

The semi-annual examinations for registration as civil engineers, and for the right to use the title "structural engineer" will be held in San Francisco on April 20, 21, and 22; and in Los Angeles on April 27, 28, and 29.

SOUTHERN CALIFORNIA CHAPTER

Chapter business and proposed amendments to the State Housing Act were discussed at the monthly meeting of the Southern California Chapter, American Institute of Architects, February 21. Gordon B. Kaufmann, president, presided at the meeting. The following members and guests were present: R. H. Ainsworth, J. E. Allison, Claud Beelman, Edwin Bergstrom, Horatio W. Bishop, E. F. Bisantz, H. C. Chambers, Robert B. Coleman, Jr., Paul J. Duncan, A. M. Edelman, R. D. Farquhar, Ralph C. Flewelling, Breo Freeman, Elmer Grey, J. Robert Harris, R. Germain Hubby, Paul R. Hunter, Jr., Gordon B. Kaufmann, John P. Krempel, Samuel E. Lunden, Donald McMurray, J. J. Miller, L. A. Parker, Jonathan Ring, W. L. Risley, A. F. Rosenheim, Floyd Rible, Palmer Sabin, Sumner Spaulding, W. F. Staunton, Jr., Loyall F. Watson, Eugene Weston, Jr., G. Stanley Wilson, Carleton M. Winslow, David J. Witmer, J. T. Zeller and Mr. Putnam.

FOURTH ARCHITECT'S INSTITUTE

The fourth annual Institute for Architects, sponsored by Washington State College, was held in Spokane, February 25th. An interesting program was carried out, some of the topics under discussion being "New Trends in Structural Uses of Lumber," by Chester J. Hogue who is in charge of trade extension and technical service for the West Coast Lumbermen's Association; "Business Forecasting Methods Employed and What May be Expected in Our Own Case," by Gordon F. Cadisch; "Modern Developments in Ventilating," by G. E. Thornton, and an illustrated lecture on "Late Trends in Small House Architecture," by Harry C. Weller.

REDRAFT BUILDING CODE

Redrafting of Seattle's building code during the lull in construction activity is advocated by A. M. Young, architect and engineer, member of the architectural firm of Schack and Young, with office in the Central Building, Seattle. Adjustment of control methods to new types of construction evolved during the last few years is deemed essential to the full protection of the owner and the public.

BILL AFFECTS ARCHITECTS

Enactment of a law providing that all buildings erected in Oregon be checked by a licensed architect, is proposed in a bill brought before the Oregon Legislature by Representative Paget and Dammasch of Multonomah County. The measure provides for a state board of five architects to be named by the governor.

WIN MENTION IN CONTEST

Three California architects were given honorable mention by the jury of award for designs submitted in the small house architectural competition of 1932, sponsored by Better Homes in America, a national organization.

Royal Barry Wills, architect of Boston, was awarded the gold medal for the prize-winning design.

The California architects were among seven receiving honorable mention. They are William Wilson Wurster, San Francisco, who received first place in the two-story class for his design of the home of Dr. Alister Mackenzie, near Santa Cruz; Leland F. Fuller, who placed first in the one-story class for his own residence at Santa Monica, and Ralph C. Flewelling, Beverly Hills, who was also awarded honorable mention in the one-story class for designing the house of Dr. Seeley G. Mudd in Sandyland Cove, Santa Barbara county.

Photographs of the prize winning design and the California houses that received mention will be published in the April number of THE ARCHITECT AND ENGINEER.

ARCHITECTURAL EXAMINATION

Examination of candidates for licenses to practice architecture in the State of Oregon were held February 13th to 16th, inclusive, in the Public Library Building, Portland. The program of subjects as announced by Mrs. Margaret Goodin Fritsch, secretary of the Oregon State Board of Architect Examiners, was as follows: First day —Theory of Architecture and History of Architecture. Second day—Architectural design. Third day — Materials and Specifications for General Contractor, Plumbing, Heating, Wiring and Ventilating. Fourth day—Strength of Materials and Structural Engineering.

TO BUILD 25 COTTAGES

Hubert A. Williams, architectural designer with office in Commerce Building, Portland, is preparing sketches for the immediate construction of four cottages for the Oregon Highway Home Company, on the Lower Columbia Highway at Burlington, a community 12 miles northwest of Portland. The company expects to erect 25 cottages on the tract during the year.

COMPETITION FOR COVER DESIGN

The House Beautiful magazine has announced its eleventh cover design competition, open to all artists everywhere. Prizes will be offered as follows: first prize, $500; second prize, $300; a special student prize of $250. In addition to the prizes several of the designs will be purchased for $200 each. The competition closes May 4th.

OVER THE DRAUGHTING BOARD

They want a plan to build a flat
They want a this, they want a that,
But just right now I'd like to tell
The cockeyed world to go to hell.
She points "A light plug over here."
(I'll bet he'd join me in a beer.)
"A Spanish roof but English house."
(She'd mate an elephant with a louse.
"Now we worked hard and saved our money."
(Heard that so much it's getting funny.)
"You did the Jonses' but then they're rich"
(You know the kind; high nasal pitch.)
"But us, we have our plans all here."
(An envelope and pencilled smear.)
"Pointed china once. Quite nice."
(Oh Yeh, I painted Russia twice.)
"You wouldn't charge the usual fee
"Counting our publicity.
"If we come here our friends will too."
(A little selling yet to do.)
"No supervisor need be hired,
"I have an uncle who's retired.
"For fixtures go to Zipper and Zounds.
"My niece who land'scapes planned the grounds.
"Our neighbour runs a lumber yard,
"We wouldn't want that friendship marred.
"The painting goes to Oldenbluff,
"He did all of my uncle's stuff.
"So Mr. Glubb you surely see
"To save at all must mean your fee."

* * *

Now that's the way one might have talked.
But here's the way the prey was stalked.

* * *

I see you know where light plugs go.
The roof . . . well now . . . mind if I show
Sketches that I think would make
Your flat the show place of Shore Lake?
If I may mention . . . you don't mind?
Most of my clients are your kind;
The kind who work and save yet give
A fair deal so we all can live.
When your friends come here the fee
Will be the same you're paying me.
Publicity from you I know
Is bound to make my business grow.
There is a secret hope of mine
Each year to have the prize design.
If you can help me plan this flat
I'm sure this year we'll capture that.
You painted china! Well, well, well.
In luck again. Not hard to tell
You have good taste. Your choice of men
To build the place . . . you're right again.
They're all good subs. The painter though.
He died you know, some years ago.
Well now we've settled on the fee
Have you a check . . . yes, just to me.
And sign this slip . . . no over here.
(I'm right. Already had his beer.)
I'll study this a day or two,
Some pencil sketches . . . then 'phone for you.
Don't mention it . . . . . I surely will!
Good day! Oh boy! Is that a kill?

—Hal Melyren.

NO INSTITUTE CONVENTION

The board of directors of the American Institute of Architects, has voted unanimously to omit the 66th convention of the Institute which was scheduled to take place in Washington, D. C., May 10 to 12 inclusive.

In reaching this decision the directors were governed by a number of reasons, including the following:

"*First.* In common with practically every business and professional organization, the Institute finds that it must operate in 1933 with a drastically reduced insome. Its budgets for 1931 and 1932 were adjusted to income and the same policy must be followed in 1933.

"*Second.* By omitting the convention a saving of Institute money usually required for convention expenses will be affected, to the extent of approximately $3,000, not including certain miscellaneous expenses that usually accrue.

"*Third.* The assessment of convention taxes on the Chapters will be avoided, and all of the Chapters relieved of a direct convention expense. Although there is a refund later on, the convention taxes bear heavily on many of the Chapters, and it was believed that they should be relieved of the burden. In addition, there will result very substantial savings to individual members of the Institute who normally attend conventions, and that saving, even under the abnormal conditions of the present year, will undoubtedly amount to a total of some $15,000.

"*Fourth.* By omitting the convention, it is possible to take some of the money saved from the convention appropriation on the Institute budget and allocate it to two appropriations — one of $1,500, to meet the expenses of directors in visiting their Chapters; and another of $1,000, to send the officers to visit Chapters and Divisions where they can be of special value at this time.

"It was the well considered opinion of the Board that more can be accomplished at this time for the solidarity of the Institute, and the maintenance of its Chapters at a high point of efficiency, by sending the Institute to the Chapters—by means of visits of officers and directors—than by bringing a few delegates to Washington during the month of May."

THE

FOUNDATION

PROBLEMS

in

San Francisco

Are described by a committee of distinguished engineers in a valuable book just published by the

SAN FRANCISCO SECTION

AMERICAN SOCIETY

OF CIVIL ENGINEERS

¶ No architect or engineer should be without this complete and dependable analysis of the soil conditions in the San Francisco Bay Region. Several years were consumed in compiling data and preparing this report.

¶ Copies of the book may be procured from the secretary-treasurer:

HAROLD B. HAMMILL

381 BUSH STREET SAN FRANCISCO

The price is

$6.00

BOOK REVIEWS

By Edgar N Kierulff

TRAVEL SKETCHES IN THE OLD WORLD, by Woodruff K. Aykroyd. Published by Thomas S. Rockwell Co., Chicago Price $5.00.

A nicely done portfolio of sketches made in England, Brittany and Normandy. The sketches on the continent embrace bits from the principal cities and towns in Normandy and in Brittany. There is a page of English Inn signs and two or three interesting half timbered churches among the drawings made in England. The book on the whole, however, does not, in the opinion of the reviewer, merit a price of five dollars. There are too many books of European sketches by traveling architects and etchers whose work has on the whole greater claim to distinction.

ARCHITECTURAL ACOUSTICS by Vern O. Knudsen, Ph.D. Associate Professor of Physics, University of California. Published by John Wiley & Sons, Inc., New York. Price $6.50.

A very complete and thoroughly technical treatise on acoustics from the standpoint of its relation to architecture, embracing every type of building in which acoustics are an essential and important factor. The modern architect will find this a valuable guide in practice.

The author of this book is an accepted authority on acoustics. The latest theoretical and practical applications of the laws governing the transmission of sound in buildings, are discussed and the book is well illustrated and diagrammed.

TRADE LITERATURE

The Westinghouse Electric & Manufacturing Company of East Pittsburgh has issued a limited number of "Engineering Achievements of 1932." a highly interesting brochure of some of the outstanding installations and major equipment jobs completed or put underway last year. It is profusely illustrated.

* * *

The American Leather Belting Association, 41 Park Row, New York City, announces the publication of the Drake Reports on Mechanical Power Transmission from Motor Drive to Industry. This will be a subscription edition, according to the announcement.

* * *

The Ideal Electric & Manufacturing Company of Mansfield, Ohio, has just released an interest-

ing bulletin descriptive of its Ideal "Self-Syn" Motors. Bulletin No. 540 completely describes the motor and gives characteristics and dimensional charts with a short word on power factor correction.

* * *

A short, concise brochure has recently been issued by the Republic Steel Corporation of Youngstown, Ohio, containing pressure and weight tables descriptive of an electric weld drive pipe and casing, as well as a nicely illustrated booklet on "Enduro", a perfected stainless steel for building use and decoration. All data pertaining to this steel is herein contained together with illustrations of some of the specific installations made.

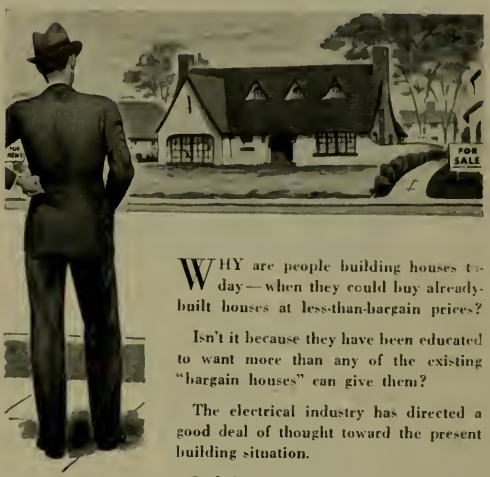
"REVOLUTIONARY" METHOD IN WOOD JOIST CONSTRUCTION

Introduction in this country of a "revolutionary" method of making wood joints through use of metal connectors, strengthening timber at its critical point and thereby making it available for wider consideration in construction of major structures, is forecast in a handbook on "Modern Connectors for Timber Construction" issued by the National Committee on Wood Utilization, U. S. Department of Commerce, and prepared jointly by engineers of the Committee and of the Forest Products Laboratory, U. S. Forest Service Department of Agriculture.

Lumber, construction, and metal stamping and casting interests, as well as architectural and engineering circles, it has been reported have been awaiting this report with unusual interest through its several years of preparation. The new practices it makes available for engineering use should result in marked economy in construction, serve as a stimulant to the advantageous investment of capital therein, and prove an innovation and a boon in several special fields to which it will afford new avenues for activity and development. "The application of 'Modern Connectors for Timber Construction'," said Secretary of Commerce Chapin in releasing the report, "should be given careful study by architects, engineers, and builders. The principle involves economy in construction cost and increased service from building materials."

The handbook, "Modern Connectors for Timber Construction" constitutes a re-introduction into this country, in modern, usable form and under economically favorable circumstances, of construction principles which were abandoned in embryonic and vaguely developed stages nearly half a century ago. As a result of war-enforced construction economies, these principles were adopted and advanced by engineers and constructors in the Central European and Scandinavian countries to the point where they have

What made this man want to build?



WHY are people building houses today — when they could buy already-built houses at less-than-bargain prices?

Isn't it because they have been educated to want more than any of the existing "bargain houses" can give them?

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It believes that more homes will be built if more people can be made dissatisfied with their present dwellings. And proper, adequate lighting offers great opportunity for improvement.

And so the electric industry is directing every effort towards educating more people to want modern, well-lighted homes. The intelligent cooperation of architects, contractors and building supply factors can speed this educational program tremendously.

The Pacific Coast Electrical Bureau is interested in discussing any idea that may lead to more sound new building. Visit or write our office nearest you any time you wish.

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been satisfactorily and economically employed in hundreds of wood-built buildings and major engineering projects.

The connectors which they employ consist principally of metal rings, plates, and disks, of a dowel type or semi-dowel with teeth on one or both faces. In general and in no-technical language the connectors are placed or forced into the faces of wooden members to be joined. The members are then brought together and held by the accustomed bolt, but the bolt becomes primarily a binder and only secondarily a load bearing unit. With their larger circumferences, these connectors take an increased load and distribute it over a larger area of the timbers, thus avoiding the undistributed unit "edge stresses" frequently experienced under bolted connections where the small diameter bolt played against a localized area of the timber face, crushing the timber at this point, and, together with bent bolts, accounting for slip with consequent sag in structures. Thus, on most conservative laboratory data, the load-bearing capacity of the joint is increased from 4 to 8 times—and in certain cases as high as twelve times—that of the ordinary bolted joint.

The new method is compared by engineers, and even more favorably, with the advance from the ancient hand or cut framing to that of the bolted joint. It has been described by Wilson Compton, President, American Forest Products Industries, and leading economist of the lumber industry, as the "most important advance in wood technique in more than a hundred years." F. Leo Smith, technical secretary, American Institute of Architects, has written that it will "undoubtedly open new fields for the efficient use of wood in many types of construction". B. L. Knowles, leading New England construction engineer who served on a special sponsoring committee as representative of the Associated General Contractors, observes the new connecting methods with "a large vision of the value of this work in future construction projects". Other engineers have described the innovation as "revolutionary" and bound to lead to a new conception by architects and engineers of the place of wood in construction.

There are some sixty odd types of modern connectors used abroad, of which some six or eight are considered important to American practice. No one type will meet all engineering requirements, but it will seldom be necessary to go beyond one or two types for a given construction project.

Pre-fabrication, similar to that employed in the use of other structural materials, becomes a natural step in the preparation of wood members for use with the new system. Seatings and borings for the connecting hardware will be made with precision tools at the shop according to spec-

ifications, where the standards of materials themselves can also be checked against requirements by experts. Partly assembled and assembled units will be shipped ready for speedy erection. Where intended use requires preservative treatment, this will be given after the borings have exposed new surfaces.

The wide use of these connectors abroad first came to the attention of American industry through Axel H. Oxholm, of the Department of Commerce, toward the close of the War, who picked the fact up from German prisoners while on duty in France. As Director of the National Committee on Wood Utilization, he has since followed the matter closely for the Department, bringing back, after several protracted investigations abroad, all available European information on the subject. On his last visit in 1931 Mr. Oxholm viewed in excess of 100 major engineering structures in which wood had proven suitable as the principal structural material as a result of the use of modern connectors.

SIGNATURES ON PLANS

Plans and specifications filed in the office of the Department of Building and Safety of the city of Los Angeles must be "personally signed" by a licensed architect or a civil engineer having a certificate of authority to use the title "structural engineer," according to the provisions of Ordinance No. 72,265 amending Section 3½ of the city building code known as Ordinance No. 28,700. Exceptions are made to single and double dwellings which do not cost more than $7500, alterations and additions which do not cost more than $5000 and other buildings and structures which will not cost more than $1000. The ordinance became effective February 17th. Following is the text of the section as amended:

Sec. 3½. ARCHITECT OR STRUCTURAL ENGINEER REQUIRED. (a) Every plan and/or drawing, and every sheet thereof, and every set of specifications therefor, filed in the office of the Department of Building and Safety for the erection, construction, adding to, alteration and/or repair of any building, shall be personally signed by an architect holding a certificate to practice architecture in the State of California, as provided in an act of said state, known as, "An act to regulate the practice of architecture," approved March 23, 1901, as amended, of the State of California, except when and as otherwise hereinafter provided in this section.

(b) Any such plan, drawing, and every sheet thereof, and every set of specifications therefor, may be personally signed by a person holding a certificate to practice civil engineering in the State of California, provided that such person also holds a certificate or authority from said state to use the title "Structural Engineer," as provided in an act of the State of California, known as, "An act regulating the practice of civil engineering," approved June 14, 1929, as amended: and/or as provided in an act of said state known as "An act to regulate the practice of architecture," approved March 23, 1901, as amended: provided, that such person uses the title of "Structural Engineer" on such plans, drawings and/or sets of specifications.

(c) No such signature shall be required for any plan, drawing and/or specification for any structure not having a roof, and/or for any structure which is not designed, intended and/or used for the purpose of housing persons, goods and/or chattels, provided that such plan, drawing and/or set of specifications is personally signed by a duly

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licensed civil engineer, either holding or not holding authority to use the term "Structural Engineer," except when and as otherwise hereinafter provided in this section.

(d) In lieu of personally signing a plan and/or drawing, and each sheet thereof, as hereinbefore required in this section, the name of the architect and/or structural engineer may be lettered, printed and/or stamped on the original tracing and/or drawing, and reproduced by blue printing and/or similar method on the copies made from such original tracing and/or drawing.

(e) In every case the personal signature of the architect and/or structural engineer shall be affixed to the cover, or the title page, or to the first page, of each set of specifications required to be signed by this section.

(f) The provisions of this section shall not apply to any plan, drawing and/or specification for a building used exclusively as a one or two family dwelling, including the accessory buildings and/or structures for any such dwelling, in the event that the total value of such dwelling when completed will not exceed seven thousand five hundred ($7,500) dollars.

(g) The provisions of this section shall not apply to any plan, drawing and/or specification for any building and/or structure, in the event that the total value of such building or structure when completed will not exceed one thousand ($1,000) dollars.

(h) The provisions of this section shall not apply to any plan, drawing and/or specification for additions, alterations, repairs, and/or other work to be done to any building or structure, in the event that the total value of such additions, alterations, repairs and/or other work when completed, for any one such building, will not exceed a value of five thousand ($5,000) dollars.

(i) The provisions of this section shall not apply to any plan and/or drawing for the installation of fixtures, appliances, apparatus, appurtenances, machinery and/or equipment, in, on and/or for any building or structure.

(j) The provisions of this section shall not apply to any plan and/or drawing which does not include any architectural design and/or any structural engineering.

(k) Nothing contained in this section shall be deemed or construed to authorize or permit any person, firm and/or corporation to violate any provision of the acts of the State of California mentioned in subsection (a) and/or (b) of this section, nor to authorize or permit the making and/or preparation of any specification, instrument of service or other data in violation of either of said acts as amended.

(l) The provisions of this section shall not apply to any plan, drawing, specification, instrument of service and/or other data prepared by the government of the United States, the State of California, the County of Los Angeles, the City of Los Angeles and/or to any department, bureau, division, office, and/or employee thereof, when acting in an official capacity therefor.

(m) Whenever it shall come to the attention of the Board of Building and Safety Commissioners, or any duly authorized representative of said board that any such certificate to practice architecture, or to practice civil engineering and/or any such certificate or authority to use the title "Structural Engineer," or to practice structural engineering, has been suspended, revoked and/or has expired, the said board or representative is hereby authorized and empowered to refuse to accept and/or approve any plan, drawing and/or specification signed by and/or bearing the name of the person holding any such certificate, unless satisfactory evidence is submitted to said board or representative establishing the fact that such plan drawing and/or specification was completed before the date of such suspension, revocation and/or expiration.

SPRINKLER COMPANY OPENS OFFICE

The Rockwood Sprinkler Company announces the opening of a branch office at 7 Front Street, San Francisco, Al Fryer, manager. Mr. Fryer has previously been in charge of other offices of this company and has had a wide experience as a sprinkler engineer.

In maintaining an office in San Francisco the Rockwood Company is in a position to give prompt and complete service to the concerns at present having Rockwood devices in their properties, as well as to those buying new equipment.

BILLS IN LEGISLATURE AFFECTING ARCHITECTURE AND ENGINEERING

Many bills affecting the professions of architecture and engineering, the Board of Registration for Civil Engineers and the Department of Professional and Vocational Standards, have been introduced in the California Legislature. A digest of these bills, prepared by Pecos H. Calahan, assistant secretary of the Board of Registration for Civil Engineers, is presented herewith.

Civil Engineering Profession — (Referred to Committee on County Government). This bill repeals the County Engineers' Act. Approved May 27, 1919, which has since been declared unconstitutional. Ref. Coulter vs. Pool, 187 Cal. 181, 201, Pac. 120.

Seawell—(Committee on County Government). An Act adding eleven sections to the political code providing for the appointment of a county road superintendent, who shall be a civil engineer. (Should be amended to read: "A person lawfully registered in the State of California to practice civil engineering.")

A county road superintendent, under this Act would in reality become the county engineer; he would not, however, assume the functions of the county surveyor. This Act also provides for the repeal of the County Engineers' Act (See A. B. 77).

County Engineer—(Committee on County Government). This bill will create in each county the office of county engineer, who must be a person lawfully registered in the State of California to practice civil engineering, and must have had within five years next preceding his appointment at least one year's actual experience in highway construction. The county engineer, the bill provides, shall become county surveyor, and the office of county surveyor abolished. Provision is also made for abolishing the county engineers' Act. (See A. B. 77).

This bill is similar in intent to S. B. 36, which provides for the appointment of a county road superintendent, but does not abolish the office of county surveyor.

Registration for Civil Engineers—(Committee on Judiciary). This bill provides for three amendments to the Act regulating the practice of civil engineering as follows: Section 11, relating to reciprocal registration; increases the registration fee for registered engineers from other states from $5.00 to $10.00, and generally rewords the section to conform with the section on reciprocal registration in the model law, sponsored by the founder engineering societies; Sec. 12, to provide

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for service of charges and complaints by either personal service or registered mail; Sec. 13, to provide that certificates of registration may be renewed after June 30 of each year only by the payment of the annual fee plus a penalty of $1.00 for each calendar month or fraction thereof. The aggregate amount of penalty that may be assessed shall not exceed $5.00 in any calendar year.

Structural Engineer—(Committee on Judiciary). This bill amends the Act regulating the practice of civil engineering. Section (1b) relating to the title "Structural Engineer" is the only section involved. The amendment reads: "Application for permission to use the title 'structural engineer' shall be made to the board and shall be accompanied by a fee of ten ($10.00) dollars; said fee to be retained by the board."

Engineers and Architects—(Committee on Judiciary). This bill amends the Act regulating the practice of Architecture. It provides that all buildings hereafter erected in the state shall have plans and specifications prepared by an architect, and the erection shall also be under the supervision of an architect, except that "nothing in the Act shall prohibit the preparation of plans or specifications or the supervision of the erection of buildings by a structural engineer in the practice of his profession, if he is expressly authorized by law to perform such acts, or if he has first passed an examination given by three persons selected by the California State Board of Architecture from a list of five names submitted by the American Society of Civil Engineers, or other similar National Engineering Society."

The bill defines the practice of architecture and the term building.

Amendments to Act — (Committee on Judiciary). This bill amends sections 1, 3, 4, 5, 6, 8 and 9 of an "Act to regulate the practice of Architecture." The only amendment in which the engineering profession is concerned is section 9, which, as amended reads: "The words 'structural engineer,' as used in this Act shall mean a person who holds a certificate or license to practice structural engineering in the State of California by authority of a state law."

Housing Act—(Committee on Judiciary). This bill amends sections 7, 30 and 65 of the State Housing Act. One amendment in particular is of interest to the engineering profession, namely, a new paragraph which has been added to section 7, reading: "All plans and specifications as herein required for apartment houses or hotels must be prepared by a certificated architect holding a valid license under the State Act Regulating the Practice of Architecture, or by a structural engineer duly qualified under said Act, and the supervision of the actual construction thereof shall be under

the responsible charge of such certificated architect or a structural engineer."

The second new paragraph added to section 7, provides that, upon completion of a project, the architect or structural engineer shall certify that said structure was designed by him and that it was constructed in conformance with provisions of the State Housing Act.

Land Surveyors — (Committee on Judiciary). This is a new bill to regulate land surveying. It provides that the Board of Registration for Civil Engineers shall administer the provisions of the Act; which requires every person practicing or offering to practice land surveying in this state to be licensed, as a land surveyor or a registered civil engineer; it repeals the existing law under which land surveyors are now licensed; it provides that any person who now holds an unrevoked license as a land surveyor, issued under the existing law, may, upon the payment of a fee of $5.00 on or before June 30, 1934, be issued a license without examination; after June 30, 1934, all applicants for license will be required to take an examination, the examination fee being $15.00, and the fee for a certificate after an applicant has successfully passed an examination is fixed at $10; the annual renewal fee is placed at $5.00, with a maximum penalty of $5.00 for delinquency; registered civil engineers licensed as land surveyors are not required to pay the $5.00 renewal fee; it sets up procedure for examinations, hearings, etc., and defines the duties of land surveyors.

(Committee on Judiciary). This bill amends section 8, of the existing law regulating land surveying by exempting "cor-partnerships" or "other political subdivisions" from certain provisions relating to retracing or subdivision of cemetery or town lots.

(Committee on Governmental Efficiency). This bill amends section 8 of the Act regulating land surveying by adding the following sentence "and said licensed surveyors and his employees may enter upon lands to make examinations, surveys and maps thereof, and such entry shall constitute no cause for action in favor of the owner of the land, except for injuries resulting from negligence, wantonness, or malice."

Professional and Vocational Standards—(Committee on Ways and Means). This is an Act to abolish the Department of Professional and Vocational Standards, and all boards under the jurisdiction of said department, and to transfer all powers and duties of said boards to other departments as follows: To the Health Department: Boards of Barber Examiners, Cosmetology, Dental Examiners, Embalmers, Medical Examiners, Optometry, Pharmacy and Veterinary Medical Examiners; To the Department of Finance, The Board of Accountancy; and to the Department of Public Works, the Board of Architectural Examiners, Board of Registration for Civil Engineers and the Registrar of Contractors.

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Newsom and Newsom, architects, Russ Building, San Francisco, have prepared plans for a brick veneer residence in Orinda, Contra Costa County, for L. P. Dodson, 747 Walker Street, Oakland. The house will cost about $7,500.

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PATENTED ARCHITECTURE AND BUILDINGS

Retaining Walls

John B. Goldsborough of Croton-On-Hudson, New York, has an invention that relates to the construction of walls for retaining the earth at the sides of excavations while being made and for thereafter serving as a form for, or in combination with, suitable material such as concrete, as permanent walls at the sides of the excavations.

A method of lining excavations which is in present use, consists of bracing the sides of the excavation with vertical planks spread apart by screw jacks or wedged struts interposed between horizontal walls engaging the surfaces of the planks. This construction is only temporary at best and requires a great number of pieces of large and expensive lumber in order to obtain sufficient bracing. Furthermore, such an arrangement presents structural difficulties if an attempt is made to utilize it as a form for a permanent concrete wall, since the mass of lumber will not permit of a strong wall of regular cross-section such as may be necessary in wet earth or quicksand, for example.

It is the principal object of this invention to provide a wall which may, in the first instance, serve as a temporary structure to retain and brace the earth at the sides of an excavation while it is being made, and which can thereafter serve as a form for or be incorporated in a permanent structure, which it reinforces.

A further object of this invention is to provide a method of retaining wall construction in which uniform pieces formed of any suitable construction material may be used for any conditions of construction.

Plastering Machine

Hugh A. Conley of Lynwood, California, has invented a plastering machine for interior walls which will obviate the work of the

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Building and Building Section

Ernst Geiger of Irvington, New Jersey, has invented an individual and assembled building unit for wall construction of the factory-fabricated slab type. The units when built up are very firmly and securely in place and highly resistant to breakage or disclocation even under sudden shocks and stresses incidental to their handling and transportation.

Means are provided to permit ready and convenient attachment of ornamental mouldings to the interior of the building. The joints of the units are concealed and the units when set up produce a decorative interior effect. The joints between the units are effectively packed with material which not only renders them wind-proof but prevents the passage of moisture from one section to another and the entrance of rain or seepage into the hollow interior of the slab.

Asphalt Shingles

An invention by Joseph O. Jones of Kingsville, Texas, consists of a composition or asphalt roofing shingle having strands of wire at its free ends to effectively lock the free ends against displacement by the action of the wind and also to lock one row or series to another row or series.

The inventor claims that the lower edges of the starting shingles

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are securely held in a flat position on the roof and will resist the efforts of the wind to raise them, with the result that a perfect water-tight roof is provided.

Grating Structure for Windows

An invention by Wallace N. Robinson of Minneapolis, relates to a protective grating for windows. Attached to the lower rail of the window sash are a plurality of vertical bars which move with the window sash and slide in and out of the wall beneath the sill. Thus when the window sash is moved up the protective bars will move up and prevent anyone from entering the room by the way of the space between the bottom of the sash and the top of the sill. When the sash is down the bars are hidden out of sight.

Protective Coating for Steel

Emile Jansen of San Francisco, Assignor to General Paint Corporation, San Francisco, has invented a protective coating for structural steel beams and irregular structural shapes, such as H-Beams and I-Beams, and the like.

Where steel structural members are exposed to severe atmospheric conditions or to the action of salt water, fog or spray, they are subject to rapid corrosion unless given a heavy coating of apshaltic or bituminous enamel paint or other protective composition. If these shapes, and particularly irregular ones, such as H-beams or I-beams are coated before being set in place, great difficulty is experienced in protecting the coated edges or flanges, as handling of the beams often causes the coating material to be scraped off the edges and corners.

In order better to protect the coating on these various surfaces and to prevent the coating from chipping off and at the same time to make the coating more resistant to abrasion in handling, it is proposed to apply fabric, such as canvas or burlap, over the edges or surfaces to be protected. This

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fabric is applied over the coating, usually bituminous material, and is mopped on with an additional application of either hot or cold material. The fabric thereby being thoroughly bonded to the original coating provides a substantial reinforcement to the latter.

SMALL HOUSE DESIGNS

The Achitectural Guild of Small Homes Design has been formed by a group of Chicago architects to provide architectural service to owners of small homes at low cost. It has a plan of operation which the architects believe is practical. The architects pool their services. Their drawings are available to any member of the Guild to use in serving clients who are unable to acquire the individual services of an architect. The full commission was paid each architect who submitted a plan and which was accepted for use in their library Before approval these drawings passed a jury of prominent architects.

The next step was to create interest for these services. Towards this end a small book was furnished to anyone interested in building. This booklet contains various architectual designs with reading matter outlining the important factors which should be given consideration when building. The value of an architect's services is strongly emphasized.

A set of these plans is available to any member of the Guild with a charge of $5. The architect then charges his client a specified cost for plans, plus a small fee for supervision. Only registered architects are to be given approval in joining this Guild. In order to further create interest in this undertaking these books are furnished to lumber dealers, realtors, manufacturers, contractors and others interested in the construction field with the charge of a nominal sum in order that they may distribute them to builders who are unable to require the individual services of an architect.—*Exchange.*

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FURNITURE CONTEST

For the benefit of good design, and in order to develop in the minds of the American public, as well as furniture dealers, manufacturers and decorators, a real appreciation of good design in modern furniture, the American Walnut Manufacturers Association is sponsoring a design contest for which prizes are offered as follows:

Bedroom Suite—First Prize.....$500.00
Dining Room Suite—First Prize.... 400.00
Bedroom Suite—Second Prize 200.00

The designer is not required to discard all of the elements known in classical or period furniture. The purpose is to develop commercial suites of distinctive modern furniture to be executed in various types of America's finest cabinetwood harmoniously combined.

Sketches only are required in order to enter the contest, which will be decided by an outstanding group of judges. The committee will consist of at least three of the leading retail furniture dealers in the United States, an authority from the Metropolitan Museum of New York or the Chicago Art Institute, an interior decorator, possibly a furniture manufacturer, and one or two others.

Following the selection of the winning designs and those sketches receiving honorable mention, all sketches will be displayed, with the name of the designers, at the leading furniture markets of this country, as well as at the Century of Progress in Chicago.

The sketches must include a bedroom and dining room suites and are to be submitted on the Imperial size sheet, 30" wide and 22" deep. They may be either to scale or in perspective, all principal dimensions being specified. The rules say:

"Do not put your name on the design, but identify it with an accompanying letter. After the judges have made their decision your name plate will be added to the design and will accompany it in the various exhibits.

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"DINING ROOM SUITE: Shall consist of table, buffet, server, china cabinet, and chairs (one arm and one side), to fall within the same price range.

"The basic cabinetwood shall be walnut for solid parts and for the predominating surfaces. (You may feel free to use any of the great variety of types of walnut veneers. Other woods in accordance with your own desires may be used for decorative features.

"Not necessarily on the sketch itself, but at least accompanying it, should be a definite description of the exact types of veneers you desire to have used.

"The suites are to appeal to the medium and higher medium class trade.

"The drawings or sketches of designs must be in the hands of the American Walnut Manufacturers' Association, 616 South Michigan Boulevard, Chicago, Ill., not later than March 31.

"In the case of the winning designs, full sized details must be available within ten (10) days after the awards are made."

L. A. FEDERAL BUILDING

Final sketches for the new United States post office and court house in Los Angeles, prepared by John C. Austin and Frederick M. Ashley and John Parkinson & Donald B. Parkinson, associated architects, have been formally approved by the Treasury Department and the working drawings are now being started. Completion of these will require about six months. At the outset only a few men can be employed as the plans must first be developed before detail drawings can be made.

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